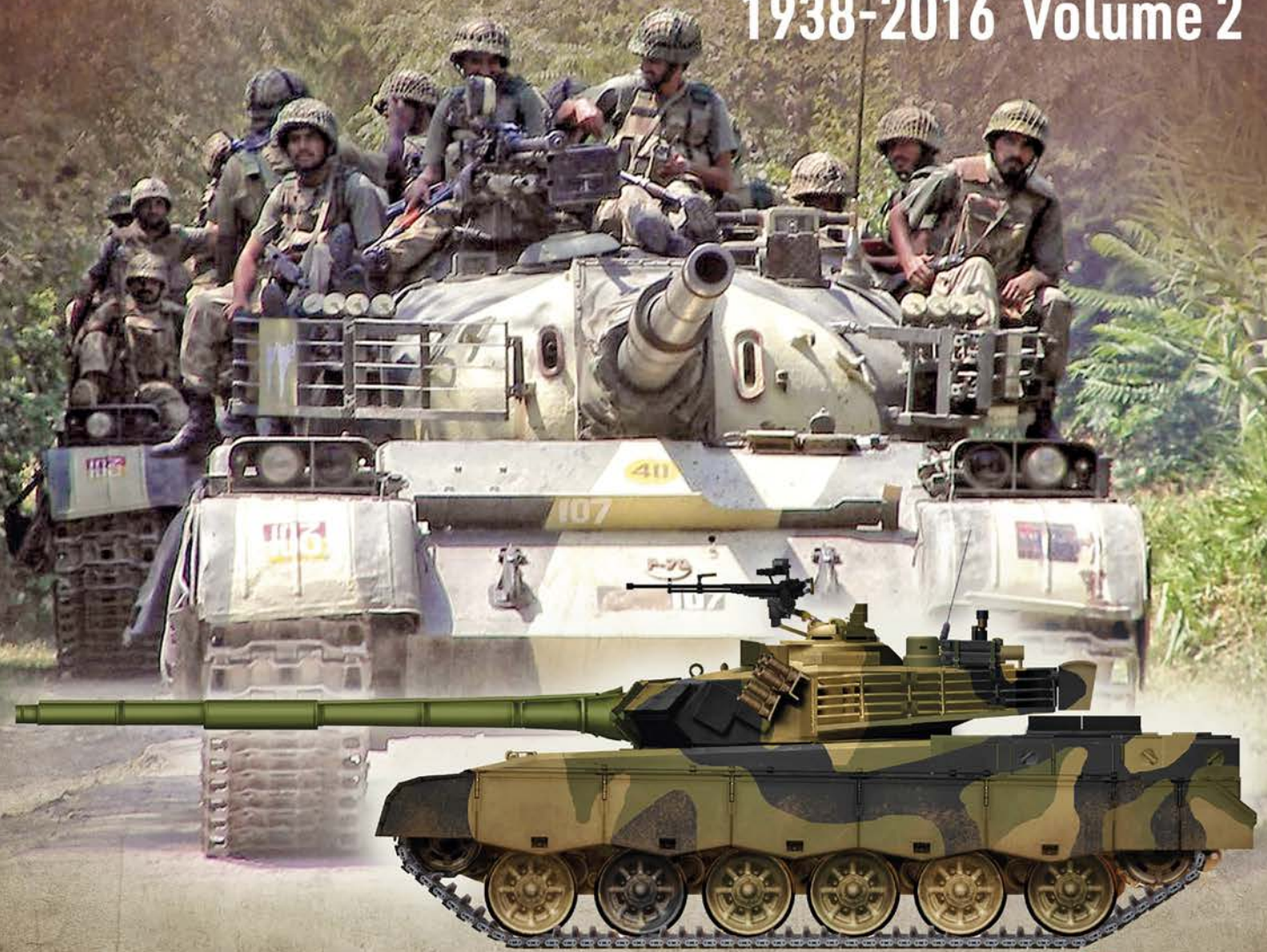


AT THE FORWARD EDGE OF BATTLE

A History of the Pakistan Armoured Corps
1938-2016 Volume 2



MAJOR GENERAL SYED ALI HAMID

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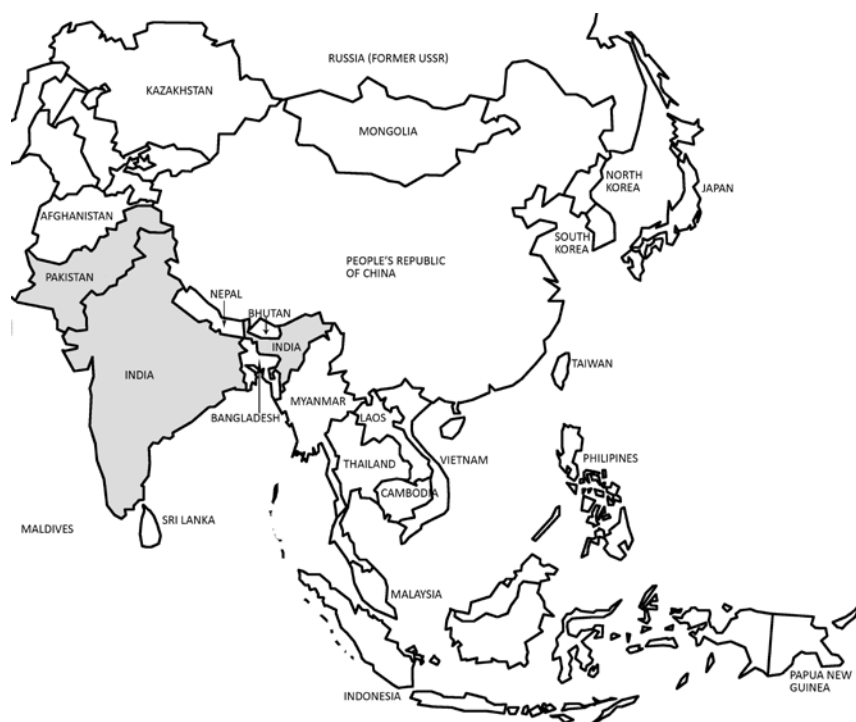
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In order to simplify the use of this book, all names, locations and geographic designations are as provided in *The Times World Atlas*, or other traditionally accepted major sources of reference, as of the time of the events described. For reasons of simplicity, genuine designations for Soviet/Russian-made weapons used in this book are mentioned once, and then their ASCC (or 'NATO') codes are used instead.

ABBREVIATIONS

ADC	Aide de Camp	MGO	Master General of Ordinance
AFV	armoured fighting vehicle	Mk	Mark
AGRPA	Army Group Royal Pakistan Artillery	MOD	Ministry of Defence
AM	amplitude modulated	MPML	Manual of Pakistan Military Law
AP	armoured piercing	MS	Military Secretary
APDS-FS	armoured piercing discarding sabot – fin stabilised	MS&B	Muslim, Sindhi, & Baluch
APU	auxiliary power unit	MTO	Mechanical Transport Officer
ARV	armoured recovery vehicle	NCO	Non-Commissioned Officer
ATGM	anti-tank guided missile	NWFP	North-West Frontier Province
AVLB	armoured vehicle launched bridge	ODRP	Office of Defence Representative Pakistan
AWOL	absent without leave	OP	observation post
BOQ	Bachelor Officers Quarters	OR	other ranks
BRBL	Bhambanwala Ravi Balloki Link	ORBAT	order of battle
CBI	China Burma India	OTS	Officer's Training School
CIH	Central India Horse	PAIFORCE	Persia and Iraq Command
C-in-C	Commander-in-Chief	PAKBAT	Pakistan Battalion
CO	Commanding Officer	Para	parachute
DSO	Distinguished Service Order	PAVO	Prince Albert Victor's Own
DZ	drop zone	PBF	Punjab Boundary Force
EICO	Emergency Indian Commissioned Officer	PIFFERS	Punjab Irregular Frontier Force
EME	Electrician and Mechanical Engineers	PMA	Pakistan Military Academy
ERE	Extra Regiment Employment	POW	prisoner of war
FC	Frontier Corps	QRF	quick reaction force
FMF	Foreign Military Funding	R&S	reconnaissance and support
GGBG	Governor General's Bodyguard	RAC	Royal Armoured Corps
GHQ	General Headquarters	RTC	Royal Tank Corps
GMC	General Motor Corporation	RDH	Royal Deccan Horse
GOC	General Officer Commanding	Recce	reconnaissance
GSO	General Staff Officer	RFA	Royal Field Artillery
GSP	General Staff Publication	RHQ	regimental headquarters
HE	high explosive	RIASC	Royal Indian Army Service Corps
HEAT	high explosive anti-tank	RIMC	Royal Indian Military College
HF	high frequency	RPG	rocket propelled grenade
HIT	Heavy Industries Taxila	RR	recoilless rifle
HRF	Heavy Rebuild Factory	RSO	regiment signal officer
HVAP	high velocity armour piercing	SDM	Squadron Daffadar Major
IAC	Indian Armoured Corps	SSG	Special Services Group
IC	Indian Communication	STO	Squadron Technical Officer
ICO	Indian Commissioned Officer	TAS	training advisory staff
IDSM	Indian Distinguished Service Medal	TDU	Tank Delivery Unit
IMA	Indian Military Academy	TEWT	tactical exercise without troops
INA	Indian National Army	TM	technical manual
IPS	Indian Political Service	TO&E	table of organization and equipment
ISI	Inter-Services Intelligence	TPP	time past a point
JCO	Junior Commissioned Officer	TSIC	Temporary School for Indian Cadets
JTA	Junior Tactical Armour	VCO	Viceroy's Commissioned Officer
KCIO	King's Commissioned Indian Officer	VHF	very high frequency
KEO	King Edward's Own		
KPT	Khairpur Tamewali		
KSA	Kingdom of Saudi Arabia		
LAD	Light Aid Detachment		
MAAG	Military Assistance and Advisory Group		
MAP	Military Assistance Program		
MBT	Main Battle Tank		
MC	Military Cross		
MES	Military Engineering Service		

CHAPTER 1

PEOPLE AND CULTURE OF THE ARMoured CORPS

The organisational model the British employed to construct the British Army of India – a colonial army – from a diverse subject population, was the concept of class companies or squadrons.¹ Rooted in the theory of the Martial Race, it sought to deploy soldiers in ethnic or religious groups large enough to be effective in combat, yet too small to constitute a major threat in case of a mutiny; for mutinies did occur until as late as the early stages of the Second World War.² The large-scale expansion of the British India Army during the Second World War broke down the barriers of recruitment imposed by the theory of the martial races. However, neither did it change the system of recruiting from martial classes for the combat units or grouping them into class or clan-based squadrons and companies.

The classification of the Indian people into martial and non-martial races was not an invention of the British; it was the recognition of something already implicit in the Indian social system.³ Thus, the British view on the martial races drew upon existing Indian thinking on race, caste and militarism, and shared some commonality with previous Indian models. Similarly, the system of organising regiments with a mix of various classes drew upon earlier methods. Just as the British in some parts of India adopted the agrarian land revenue system established by the Mughals, post-1857 they replicated the recruitment and organisational methods used by Sikh armies.

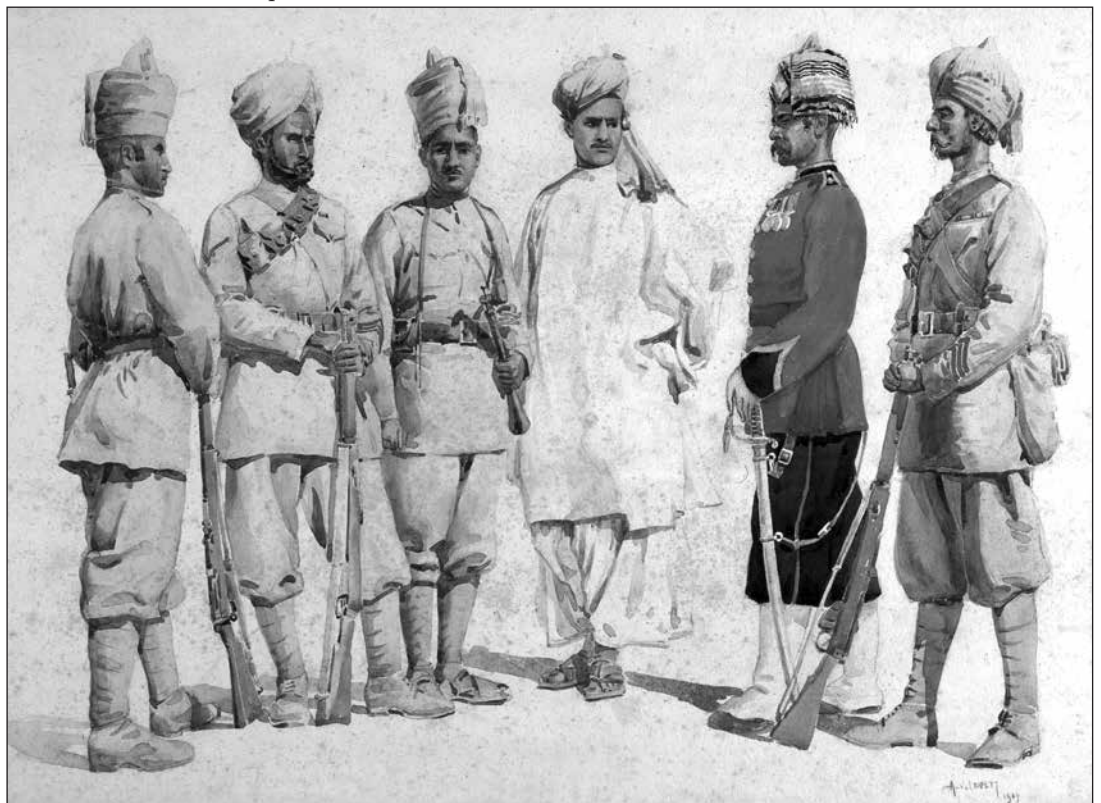
The theory of the martial race was never fully codified. It evolved through inputs from reports by committees and correspondence between administrators and generals. The essence of martial race thinking at specific points can be gained from reviewing the recruitment handbooks compiled by the British to aid their recruiters in selecting the most racially desirable, and therefore qualified, candidates for military service.⁴ Amongst the groups identified as martial, not all their components were considered worthy of recruitment. Just as the British only recruited the Sikh Jats and the Mazbhis Sikhs, so also recruitment was not from the entire stock of Pathans or Punjabi Muslims. Similarly, within the Pathans, who constituted around five percent of the army, certain tribes or sub-tribes were considered better soldiers than others. Those most commonly enlisted into the cavalry were the Yusufzais from around Peshawar, the Khattaks from the mountains around the Mardan District, Mohmands north of the Kabul River, Afridis from the wilds of Tirah, and the Orakzais from the south. Traditional martial race groups continued to be recruited heavily during the Second World War. In 1943, the

Punjabis — who since 1857 had been the mainstay of the Indian Army — accounted for 25 percent of the annual recruitment, and through the war provided 37 percent of the combatants and non-combatants.⁵

At the turn of the nineteenth century, the classes that were recruited into the cavalry of the British India Army were the Punjabi and Hindustani Muslims, Pathans, Sikhs, branches of Muslim and Hindu Rajputs, Dogras, and Jats. When the cavalry regiments were amalgamated in 1922–23, the squadrons of Punjabi Muslims and



The Muslim 'martial castes' of North-Western India.



Some examples of 'martial castes' from the early twentieth century, from left to right: Afridi, Jat Sikh, Bangash, Swati, Yusufzai, and PM. (NAM)



The Gakkhar Fort at Parwala, on the banks of River Soan, conquered by the Mughal Emperor Babur in 1519.



Personifying what the British considered 'martial', this photograph shows LD Jafar Khan of Scinde Horse, from Garim Ali Khel, in Peshawar. (Imperial War Museum, via author)

Sikh accounted for nearly 50 percent, but in the reorganisation that occurred in 1937, the representation dropped. The reason was that the three regiments that were converted to training regiments mostly comprised of Punjabi Muslims and Sikhs.⁶ In 1947, the class structure of the Indian Armoured Corps with the exception of one regiment was based on the so-called martial races largely from the North Western portion of the sub-continent.⁷ Of these martial races, the Pakistan Armoured Corps inherited the Punjabi Muslims (PMs), Pathans, Hindustani Muslims (HMs), and Muslim Rajputs (MRs) including Ranghars and Kaim Khanis. The PMs were the largest class in the British India Army, but were relatively obscure compared to the Sikhs, Gurkhas, and Pathans. The only class of soldiers not inherited at Independence but subsequently recruited into the Armoured Corps were from erstwhile East Pakistan and designated as Bengali Muslims. In the 1950s, only 13th Lancers had a small percentage of Bengali Muslims, but in the early 1960s, they were recruited in larger number and five percent of the class compositions of every armoured regiment were Bengali Muslims. Following the 1965 War, 30th, 32nd and 33rd Cavalry had a quota of 25 percent. However, the largest quota of 50 percent was with 29th Cavalry raised for the eastern wing of Pakistan prior to the 1971 War. These Bengalis served the regiment in East Pakistan until the situation worsened, and they were replaced by the other classes. Consequently, the number of Bengalis in the

armoured regiments swelled and during the 1971 War, some regiments like Probyn's Horse had 25 percent, and others like 28th Cavalry had close to 50 percent. However, they only accounted for 2.5 percent of the entire strength of the Armoured Corps. Bengali recruits arriving at the Armoured Corps Centre were well educated and keen to learn, but obviously, the young boys had problems; they were homesick, and it took some time for the Centre to gear-up for providing their preferred diet of rice. The Centre ultimately succeeded in introducing them

to chapattis for one meal a day. The Bengalis also found the winters of northern Pakistan to be too cold. Those with 13th Lancers at Kharian were issued blankets even during spring when the nights by local standards were pleasantly cool. The regiment found the Bengali's expression of dismay amusing: "*Agar gormi mein itni shordi hai to shordi mein kitni shordi hogi?*" (If it is so cold in summer then how cold would it be in winter?).⁸ The Bengali recruits were well looked after by NCO instructors from the East Bengal Regiment especially brought in by the Centre to overcome the language barrier. They were better educated than their counterparts from West Pakistan, mentally alert, and good at swimming and football. Generally good cooks, they were preferred as batmen by the married officers. During the 1965 War, 24th Cavalry had the largest number of Bengalis. They proved to be very brave, but it was the problem of communicating with them that resulted in commanders not wanting them in their crews.⁹

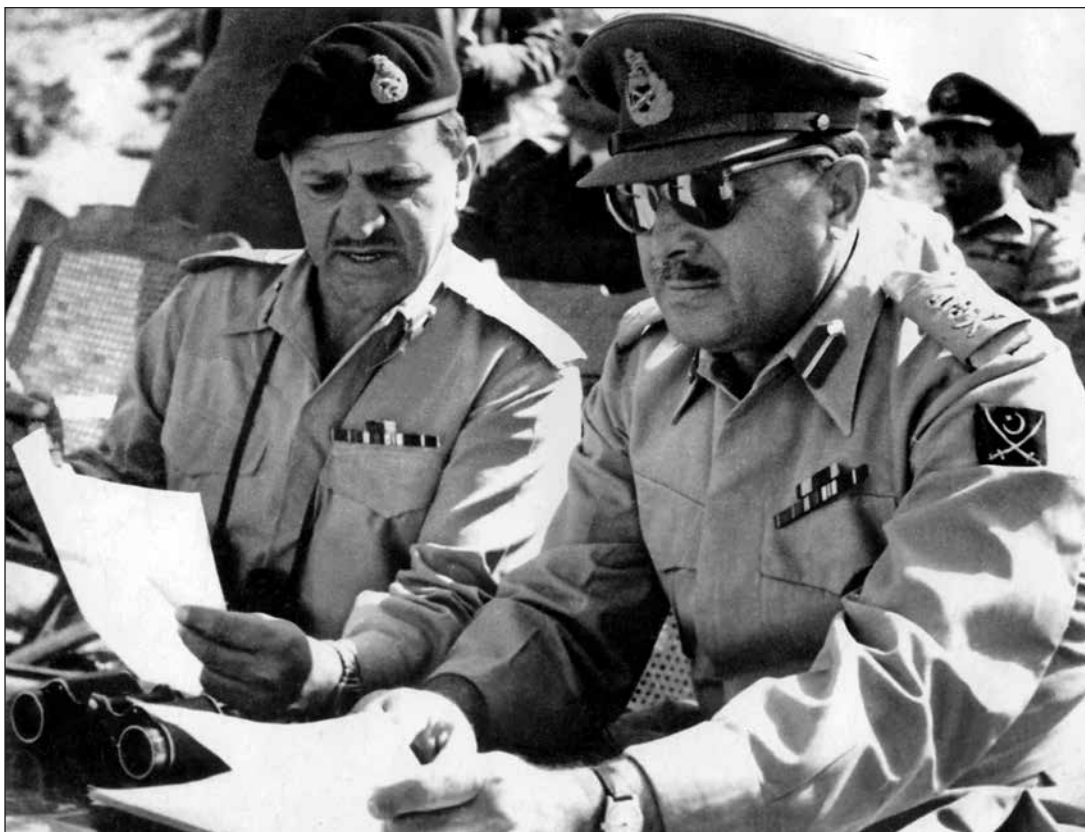
The Pakistan Army was fortunate to inherit a recruiting base that had provided its predecessor with some of its finest manpower, and motivated it through a blend of faith, *Izzat* (see below), regimental spirit, and nationalism. It took over a decade to dissolve the organisational model of its predecessor and expand its recruiting base to include races that were earlier considered non-martial, such as the Bengalis. Concurrently the Corps also diluted the cultural role of the JCOs, which after Independence became redundant and took measures to make this cadre more relevant to the changing environment.

At Independence, the Armoured Corps comprised of 55 percent Punjabi Muslims, 17 percent Pathans, and the remaining 28 percent were Ranghars, Kaim Khanis, Muslim Rajputs and Hindustani Muslims, of whom a large number were resettled in Sind and Southern Punjab. For this 28 percent, the army formed a new class called MS&B —Muslim-Sindhi-Boluchi. The Pathans from the Punjab, mainly the Niazi from Mianwali District, were also recruited into this class. Through the 1950s and into the 1960s, there was a gradual reduction of MS&Bs, and a corresponding increase of Pathans as well as the Bengali Muslims, who were never more than five percent of the total.¹⁰ After the 1971 War, the Punjabi Muslims increased to 60 percent and filled the vacuum created by the departure of the Bengalis. Concurrently, the Pathans exceeded the MS&Bs at 21 percent versus 17 percent. Except for 11th Cavalry, which had an equal number of Pathans and MS&Bs, the Punjabi Muslims were represented in all the regiments with up to 75 percent in 25 regiments, 50 percent in 14 regiments, and fewer than 50 percent in only three. These regiments were the Guides and 22nd Cavalry which had 67 percent Pathans and

33 percent Punjabi Muslims, and 15th Lancers which had 60 percent MS&Bs and 33 percent Punjabi Muslims. In the 14 regiments that had 50 percent Punjabi Muslims, eight had an equal representation of MS&Bs and six of Pathans.

Officer Corps

Both the Pakistan Army and its Armoured Corps had a serious shortage of officers at Independence, and the majority of available officers had no more than seven years of service. British officers initially made up the shortfall, but it took more than ten years for the situation to stabilise. Some of this shortage at the junior level was initially overcome by transferring officers from other arms as well as promoting from the ranks. The bulk of officers who subsequently made up the shortage were from the early courses, run at both the Pakistan Military Academy at Kakul, and the Officer's Training School (OTS) at Kohat. At the middle level, there was a serious shortage of lieutenant-colonels and a need to fill staff and instruction billets. For a while, this was made up by a great deal of rotation and some colonels commanded up to three regiments within eight years. At the senior level, the gap that existed well into the late 1960s was filled with infantry officers who commanded armoured formations with varying degrees of success. As the situation stabilised in the late 1960s, two positive changes followed: the first was a new breed of professionally capable officers; the second the steady increase of second-generation officers that knit regiments and the Corps into a 'family'.



The C-in-C, Gen Ayub Khan, with Lt Gen Yusuf at a firing demonstration at Quetta, 1955. (All photographs author's collection, unless stated otherwise)



Nawab Khwaza Hassan (Arthur) Askari, 7th Light Cavalry, GGBG and Probyn's Horse.



Lieutenant-Colonel Mustapha Khan, a handsome officer nicknamed 'Prince of Wales', commanded the Guides in Kohat in 1950.



Brigadier Hamid Khan in the cupola of a Sherman tank.

The JCO Cadre

As first the French and then the British sought to consolidate and expand their positions in south India, they created an intermediary cadre between officers and sepoys.¹¹ They were initially referred to as Native Officers and until the First World War as Indian Officers. Their purpose was to bridge the gap between the British officers and their native troops by acting as a common liaison point between officers and men and advised the British officers on Indian affairs. Promoted mostly from the ranks on the basis of a long and good record of service, they were illiterate but learnt to speak fairly good English. The British officer treated them with respect and they were addressed as *Sardar Sahib*. *Sardar* is a word of Indo-Iranian origin and a title of nobility (*sar* means head and *dār* means holder). It was originally used to denote princes, noblemen, and other aristocrats. It has also been used to denote a chief or leader of a tribe or group. Honorary ranks were awarded to outstanding Viceroy's Commissioned Officers, and some were appointed as ADCs to the C-in-C India, the Viceroy, and to the British monarch. This practice of appointing them as ADC continued on a limited scale in the Pakistan Army. An example was Khan Bahadur Muhammad Wilayat Khan from the Gakkhar clan who was a highly decorated VCO with an OBE and an MBE. He joined Central India Horse as a sowar and served with it throughout the First World War and later.¹² Granted the honorary rank of colonel after Independence, he served as an honorary ADC to two presidents and a prime minister. However, his sterling contribution was as the president of the Ex-servicemen's Association in West Pakistan.

Following the amalgamation of the Indian cavalry in 1922, apart from 14 British officers, each regiment (both silladari and non-silladari) had 18 VCOs (8 risaldars and 10 jemadars), and 504 non-commissioned officers and sowars.¹³ At the top of the chain, was the risaldar major who was the equivalent of a major. He wielded near absolute authority over the other ranks and was their de facto commanding officer. It was probably for this reason that the portraits of the risaldar majors hung alongside those of the commanding officers in the mess. Below him were risaldars, who were the equivalent to captains, followed by jemadars, who were equivalent to lieutenants.¹⁴ At Independence, the Pakistan Army retained the cadre of the VCOs, and while giving them the same status — which was more than a warrant officer but less than a regular commissioned officer — for a period their function continued to be as much cultural as military.¹⁵ Because recruitment in the British India Army was from specified areas, even down to a particular group of villages, the VCO was something of an older brother or village elder who disciplined and counselled the young peasant sepoy, and served as a cultural transmission belt.¹⁶ As a result, the VCOs had a very strong hold in the armoured and infantry units. The VCO was a key component in maintaining a respectable distance between the officers and the rank and file. It was expected of an officer to be 'firm, fair and friendly'. On the other hand, it was the responsibility of the VCO to *Roko aur Toko* (Check and Admonish).¹⁷ The VCO had a great deal of authority in handling the soldiers and the *toko* could be physical. If the soldier erred, the VCO took him behind the tank, and delivered a couple of hard slaps while the officer looked the other way. The soldiers accepted this punishment not only because of the more stringent discipline that was enforced in the army at that time, but also because of the strong clan culture that had been nurtured by the British. British officers used to spend their long leave at the villages from where their regiment recruited soldiers. Here they would meet and stay with the retired VCOs and were also introduced to the young aspirants who wanted to join the regiment. One of the positive effects of this was that during the 1950s, it was rare for a soldier to be absent without leave (AWOL). Brigadier Hamayun Malik



Khan Bahadur, Honorary Colonel Wilayat Khan, 38th KGO & CIH, as shown on the cover of the UK *Soldiers* magazine, 1961.

recalls that shortly after he was commissioned into 6th Lancers in 1953, a soldier went AWOL, and there was a crisis in the regiment.¹⁸

Within a decade after Independence, the status and role of the JCOs changed. The change was gradual and occurred for a number of reasons. With an increasing number of Pakistani officers, many of whom came from the same area, possibly the same community as the soldiers and spoke the same dialect, the need for a link became redundant. When Pakistan became a republic in 1956, the title of VCOs was changed to Junior Commissioned Officers (JCOs) and the rank of jemadar was renamed as naib risaldar in the Pakistan Armoured Corps and naib subedar in the rest of the army. An indicator of the decline in the status of the JCO was that by the 1960s, they were being addressed as just plain 'Saab' instead of the more regal sounding title of 'Sardar Sahib'. This did not affect the status of the JCOs as much as the concurrent merger of the squadrons and companies of various classes into one homogeneous group in the regiments and battalions. It put an end to the clan culture from which the JCOs had drawn their strength. However, the promotion to the rank of JCO continued to be in proportion to an overall strength of the class that he represented in the regiment and was 'a very clever and a very good decision' as it prevented discontentment.¹⁹ Corresponding with a decrease in their cultural role was an unplanned increase in their military role in the Armoured Corps. Due to a shortage of junior officers, JCOs were placed in command of tank troops, and their performance varied considerably. It was probably expecting too much from a cadre that

unlike the officers generally did not possess a high level of education, training or breadth of outlook. There were exceptions. Risaldar Noor Mohammad of 6th Lancers, who as a daffadar had been awarded with a Tamgha-i-Jurat in the 1965 War, was assessed by Gul Hassan as the best troop leader in the division.²⁰

However, the majority lacked combat leadership and an understanding of tank versus tank combat.²¹ During the 1965 War, they were thrust into an environment for which they were not conditioned, and their performance did not match expectations. Compared to the officers, their casualties were also fewer. It could be argued that this very cadre performed well during the Second World War, but their performance in that period should be judged through the prism of experience that they acquired during a prolonged conflict.²² However whatever their professional limitations, what they could not be slighted for was a sense of duty and loyalty to the regiment. During the 1965 War, a JCO of 11th Cavalry re-joining from ERE and finding no vehicle to take him from the railway station at Gujranwala, walked 45km through the night to the regiment at Pasrur. It was no mean feat for a 40-year-old man. The problems associated with the combat leadership of the JCOs and NCOs prevailed not only within the Armoured Corps, but also in all combat arms, and to improve their tactical intellect, the army established battle schools within the divisions. In addition, it also set up a Junior Leaders Academy for selected NCOs. Over a period of time these and other measures resulted in a JCO far more capable of performing the role of a combat leader and reduced the gap between their capabilities and the expectation of the Corps. In fact, their performance in the 1971 War was far better. As the Armoured Corps became technically more demanding, the JCOs, who were better educated, came to the forefront. A case in point was Ghafoorullah, a very calm and composed JCO who was an expert in communication. As an NCO, he had performed exceptionally well with 15th Lancers during the 1965 War and with 26th Cavalry in the 1971 conflict. He was an excellent instructor and had the privilege of coaching Eftikhar Khan before he took command of 6th Armoured Division. Those officers who knew Ghafoorullah, and there were many who had been his students at the Wireless Wing of the Armoured Corps School, considered him as 'officer class material' — which is the highest praise that can be given to a JCO — and he retired as an honorary captain. Over the years, the Corps produced many JCOs like Ghafoorullah as a result of which, their cadre has now re-established its standing within the Corps and performs a very important role.

The NCOs and Sowars

The Pakistan Army and the Armoured Corps are fortunate to be gifted with some of the best soldier material in the world. Comprising of the non-commissioned officers, the equivalent of sergeants in other armies, and the Other Ranks, a term loosely applied by the Pakistan Army to its soldiers, they are the body to the backbone provided by



General Ayub meeting RM Sultan Khan Borana. On the right is Honorary Captain Asat Ali Khan, Poona Horse and 19th Lancers.

the officers and JCOs. In the hierarchy within the rank and file of the regiment, it is not only the JCOs who wield authority. The NCO daffadar majors are strong figures, and in the past they had a great deal of power over the soldiers and were feared.²³ Part of the reason they were feared was that physical punishment and verbal abuse was an unofficially accepted form of corrective action. By the mid-1960s, this was no longer the case and neither would a sowar accept abuse nor being struck by his senior. This change occurred because the system of recruitment by caste/clan was phased out, and the soldiers were far better educated and aware of their rights under the military law. However, because of various motivators that the Pakistan Army so successfully employed which are discussed subsequently in this chapter, military discipline did not sag.

While every caste/clan has their idiosyncrasies, the soldiers are mainly God-fearing, loyal, hardworking, and uncomplaining. They are well disciplined and tough in a lean and wiry sort of way. In a troop exercise during the early days of 1st Armoured Division at Tamewali Firing Ranges, a tank stopped firing. The CO climbed on the tank and called to the loader and asked him why the gun had stopped firing. However, with the noise of the engine he could not understand the reply. He shouted into the loader's ear that the tank should resume firing and it did. After the exercise, the loader was evacuated with an arm that had been broken by the recoil of the gun, however he had continued to load 35kg rounds because the CO had ordered him to do so.²⁴

Many of the soldiers come from modest backgrounds and apart from the basics of pay, food, lodging and leave, their demands are few. Their expectations are to be treated fairly, a concern for their welfare, and upholding their *Izzat* (respect), a time-honoured concept that was understood by all ranks of the British India Army and its successors.²⁵ There is no single word in the English dictionary that would define *izzat*. It encompasses a soldier's honour, self-respect (*izzat-e-nafs*), reputation, and pride in himself and his family or caste/clan.²⁶ *Izzat* was cultivated as a powerful motivator in the British India Army, and continues in the Pakistan Army as well as the Armoured Corps. In the concept of honour prevalent in the culture of North India and Pakistan, the importance of maintaining families' respect and identifying it with *izzat*, is linked to personal shame that can be



Durr Haq Nawaz, Shaheed, 11th Cavalry. An exemplary tank commander in the 1965 War.

brought to others by one's own behaviour. Therefore, by aligning it with the izzat of the primary and secondary group (i.e. the squadron and regiment) in which the soldier serves; this belief in the notion of izzat is made to work both ways. He is expected to uphold the izzat of these groups and in turn receives the same. Consequently, izzat has become an integral part of the culture of the regiment. The loss of face of the regiment is a loss of face of everyone serving in it. Conversely, if an individual excels, the izzat of the regiment is upheld. It is therefore a strong motivator across the spectrum of activities that a soldier undertakes, whether it is his performance on a course at a school of instruction, in sports, or on the battlefield.

The desire to uphold izzat was so splendidly demonstrated by an unsung hero of the 1965 War, Daffadar Haq Nawaz, a Gairwal from the Kahuta Galiyat. He was commanding an M36B2 of 'C' Squadron, 11th Cavalry at Phillaurah. As his tank rolled into its battle position, he constantly encouraged his crew to remain calm. In the first engagement, the crew destroyed two Indian Centurions. Sometime later, they had the satisfaction of a third kill as another Centurion emerged from behind a clump of trees, and the M36B2 fired two rounds in quick succession. Luck ran out as their tank was hit, but fortunately, it suffered only partial damage. However, the gunner was badly wounded and in spite of his own injuries, Haq Nawaz took control of the gun and continued firing. The M36B2 was hit for a second time and since all the remaining crew were now injured, they evacuated the tank and Haq Nawaz treated their injuries. A little later, when there was a lull in the battle he coaxed his crew back into the disabled tank by appealing to their izzat:

"Lalay kahain gay keh Musle tank chad keh nas gaye saan. Challo Allah da naa lay keh baqi round fire kariye." (The Indians will say that the Muslims left the tank and ran away. Come. Take the name of Allah and fire the remaining rounds).

Returning to their tank, the crew destroyed two more Centurions before their tank was hit for a third time and engulfed in flames. Two of the crew bailed out but Nawaz perished in his cupola. The story of Nawaz's unbounded courage remained shrouded until one of the surviving members of the crew returned from a prolonged period in hospital. Nawaz was recommended for the award of a Nishan-e-Haider, but since the recommendation was forwarded well after the



One of the many memorial tablets erected after the First World War.

conflict had ended, it was not accepted.²⁷

The second motivator in the Pakistan Army is the belief in the tenets of the Islamic faith. The British trod carefully on matters related to faith. However, recruits were bound to the unit through a religious oath and though squadrons/companies were grouped based on caste/clans of different faiths (Muslims, Sikhs, and Hindus), religion was symbolic.²⁸ Probably the only exception was the battle cries of the infantry companies of the British India Army, which had a religious call: "Allah o Akbar", "Sat Siri Akal", "Jai Bhagwan" and "Jai Mahakali, Ayo Gorkhali" to name a few. Following Independence, the Pakistan Army moved immediately to emphasise Islam as a unifying force, but to a great degree, the secular traditions prevailed, and neither the officers nor the soldiers can be considered orthodox. The society that the soldiers belong to is conservative and this is reflected in their attitude towards religion; it is to be practiced but never at the cost of duty. If a soldier's perception of his religious obligations comes in conflict with his duties and responsibilities, he is corrected.

The third motivator is regimental spirit, which is discussed in detail in the last chapter, and the fourth is nationalism, which like faith, did not exist as a motivator prior to Independence. In the British India Army the soldier only possessed what Auchinleck described as, 'some abstract sentiments of loyalty and patriotism to the Government and to the King, [and] the men's allegiance for all practical purposes was focused on the regiment, and particularly on the regimental officers, on whom they depended for their welfare, advancement, and future

prospects.²⁹ As a consequence, officers were highly respected. Said Azhar recollects a visit by an old Tiwana veteran from Sargodha while he was commanding a squadron in 19th Lancers in the late 1950s. "He was ushered into my office, and after a little pow-wow about the days gone by, he walked out rearwards without turning his back to me, his squadron commander."³⁰

Though the soldier's allegiance is now to Pakistan, the officer still plays a central role. The soldier looks to the officer for leadership and expects him to be visibly present when the going gets tough. Where the officer goes, he will follow unquestionably. They are not excessively critical of the officer but are very observant and quick to recognise his strengths, weaknesses, and faults. This is best demonstrated at the pantomime which is held at the end of a long spell of field training. It is a tradition in the armoured regiments and is organized by the JCOs. The pantomime is 'like a revue', the main aim is to bring out the weaknesses of the personnel, especially senior people. The soldiers are brilliant mimics, and they always pick up things during exercises that they can use. Everybody comes to watch...and they (the officers) usually laugh at themselves.³¹ Events like pantomimes are encouraged within the Corps because they enable the officers to gauge what the soldiers are thinking. They also act as a pressure relief valve, by enabling the soldiers to express their concerns that cannot be communicated through the formal channel.

Upper Order

On independence, the Pakistan Army had a requirement of 4,000 officers: only 2,500 were available, of which 154 were from the cadre of pre-war regulars.³² Further, 129 officers were provided by the British government and instead of appointing them as advisors – which was certain to cause frictions – they were assigned command and staff positions commensurate with their seniority and experience. Sixty-seven cadets of the Indian Military Academy (IMA) were evacuated from what was now India, while 140 additional officers were transferred to the Pakistan Armoured Corps from infantry formations. Most of the British commanders were replaced by Pakistanis by early 1948, but due to a dearth of senior officers, they were promoted after a short command. Even such measures were not entirely sufficient and thus for the first eight years of its existence Pakistan's premier armour formations were largely commanded by infantry officers. This was the case not only with the first armoured brigade, but also with the 1st Armoured Division. Nevertheless, because of their reputation for being 'brash, out-spoken, and upright in their views', officers of the Armoured Corps were frequently superseded in promotion – usually on insistence of the Corps' own top commanders. The result was that even as of the 1955-1966 period, Sahabzada Yaqub was the only general officer that the Corps could claim as its own. Overall, during this period the Armoured Corps went through what Wajahat Hussain described as a 'senior officer crises of leadership in not getting their rightful commands of divisions and brigades'.

The rapid promotion of the pre-Independence officers resulted in a near vacuum at the bottom of the ladder – and then one that even the



General Ayub Khan, C-in-C Pakistan Army, at a recruiting Mela.



The Officers Training School at Kohat.

military academy could not fill. The first OTS course in Kohat in 1950 provided short courses of nine months duration, with the first half providing basic infantry training and the second half specialist arms training. Out of approximately 500 cadets, only 32 were commissioned into the Armoured Corps. Altogether, the OTS at Kohat provided nine courses before it ceased to function. Still, up to the early 1960s, the Corps was very selective in accepting fresh entrants and preferred those who were high in the order of merit at PMA and the OTS – or those who had family links. The same criteria had been applied in the IMA and 'only the first 10 qualified for the Armoured Corps. Family background [also] counted a lot'.³³ Small though it was, the Corps competed with the much larger arms like infantry and artillery for



Major Ziauddin Abbasi, Shaheed, S.J., the Guides Cavalry.



Lieutenant-Colonel Abdul Qayyum as CO of 11th Cavalry.



Mir Abad Hussain meeting King Hussein of Jordan at Peshawar in 1953. The two had been together at Sandhurst.

recipients of the Sword of Honour. From the 36 regular courses that passed out of the military academy until the 1965 War, 11 recipients of the Sword (or nearly one-third) opted for the Armoured Corps.

With regiments at near full strength, promotions slowed down during the 1950s. During the early 1960s, a major became substantive with 13 years of service, and many continued to revert to the rank of captain because there were not sufficient vacancies. However, promotions speeded up with the expansion of the Corps.³⁴ Vacancies also emerged because officers were keen to savour exciting new openings like the Special Services Group (SSG). Another equally exciting opening was the Air OP. It was the forerunner of the Army Aviation Branch, and until the late 1950s only artillery officers could qualify for an aviation wing. However, when this policy was amended, in 1959 Abdul Mokeet Khan, 15th Lancers, was the first officer from outside the artillery to qualify as an aviation pilot. A year later, Mokeet was one of the pilots who was selected to make the first flight by the Army Aviation to Gilgit in a formation of five L-19 aircraft. Others

from the Corps who qualified as pilots before the 1965 War included Ross Mehmood, Abdul Hameed Dogar, and Nauman Mehmud followed him. More joined after the war, including Farrakh Khan, Badaruddin, and Saeed Uz Zaman.

The professional and personal profile of the original cadre was more diverse compared to subsequent generations: by the 1970s, and barring those who had been commissioned through the OTS, all the officers of the Pakistan Armoured Corps were from the fountain of the Pakistan Military Academy and passed through the same stages of professional development, i.e. service with troops, training course, instructional appointments, command and staff.

The Family of the Corps

Prior to Independence, a few Muslim officers in the Corps had blood-ties. However, from the 1960s onwards, there developed a larger family connection within the officers as a second and third generation were commissioned into regiments. These follow-on generations were not limited to sons following fathers, but also encompassed a larger canvas including brothers, nephews, brothers-in-law, and those who did not have a 'claim' on a particular regiment, but their links with the Corps, and the cavalry extended back a number of generations.³⁵

The Corps is proud of the fact that it was a large list, which got even larger when the sons of Viceroy Commissioned Officers (VCOs) and Junior Commissioned Officers (JCOs) were included. Listing all the examples would go well beyond the scope of this volume but there are good samples that mirrored the Corps' growth in the 1960s and 1970s. Asif Afridi, the son of General Yusuf, was the first of a long lineage. This was the second instance in the Pakistan Army of a father and son both graduating from Sandhurst. Asif was commissioned



General Shamim Alam Khan S.J., as a captain in the Special Services Group.



Asif Afridi, son of Lieutenant-General Yusuf. Both were commissioned from Sandhurst.



Tariq Rahim, 13th Lancers, was tragically assassinated by al-Zulfiqar.

into Probyn's Horse, but soon left the army, much to the regret of his father. He was followed by Asmat Beg, the son of Gustasab Beg, and was commissioned into 13th Lancers. In fact, two more sons of Gustasab – Riffat and Shaukat – were also commissioned into the same regiment and probably set some sort of a record. A nephew, Sabir Beg, was commissioned into the Guides, and was awarded a posthumous Sitara-e-Jurat in the 1965 War. Hussain Shah, the son of Pir Abdullah Shah, joined his father's regiment in 1964, but was also tragically martyred in the 1965 War. Also from amongst the old guard, both the sons of Brigadier Idrees, the first Pakistani commander of 3rd Armoured Brigade, joined the Corps. Owais was commissioned into 13th Lancers, and Shoaib into 12th Cavalry. The steady stream of intakes with family connections into the six armoured regiments even increased after the 1965 War. For example, commissioned into Probyn's Horse were Adeebur Rehman, the son of Colonel Rehman, Brig Nazir's two nephews; Shafqat Ali and Shaukat Ali, Colonel Nasrullah's son Mehmood and his two nephews; Shamshad Ahmed and Assad Ali Khan. Shamshad's elder brother, Naeem Ahmed, had earlier been commissioned into 4th Cavalry. Also commissioned into



Khaliq Yar Tiwana as Commandant of the President's Body Guard.

4th Cavalry was Shahid Hayat where his father M.M. Hayat had served as second-in-command. PA-909 Malik Hayat had been commissioned into 7th Light Cavalry and at Independence joined Probyn's Horse but transferred to 4th Cavalry. Both father and son had the distinction of attending both the Advanced Armor Course at Fort Knox, and the Command and Staff Course at Fort Leavenworth, USA.

In addition to the trend of sons following fathers and brothers following brothers, or officers from one extended family joining the same regiment or the Corps, there was also a tradition of two major

clans having a large representation. These were the two branches of the Janjuas, one centred around Chakri, west of Jhelum, and the second from a village named Naramtor, in the Rawalpindi area.³⁶ While the majority joined the infantry, until 1995 close to 20 had been commissioned into the Armoured Corps. A number of them followed in the footsteps of their ancestors who had served with distinction as VCOs. Finally, the family of the Corps also includes officers whose lineage extends back a generation or more to the Indian Cavalry. Yahya Effendi, who was commissioned into 11th Cavalry, was a nephew of the grand old Sir H.D. Yahya's father, Sardar Abdur Rehman Khan Effendi was an honorary officer in 3rd Cavalry in 1923. Iqbal 'Ikki' Jan, Sir H.D.'s grandson was commissioned into PAVO. Jafar Khan also came into this category. His grandfather, Risaldar Major Malik Gulsher Khan Gheba, had served in the Guides and was a member of the mounted contingent that attended the Delhi Coronation Parade for King George V. Aslam Punawar's grandfather, Risaldar Fateh Muhammad Khan, had served in Scinde Horse and was on active service in Mesopotamia in the First World War. The author also fits into this category since his father, Syed Shahid Hamid, was commissioned into 3rd Cavalry.³⁷

Next Generation of Senior Leadership

In the 1960s, Sahabzada Yaqub and Gul Hassan were the first two officers of the Corps promoted to the rank of major general and shared some similarities during their careers. Both had seen active service in the Second World War but for a short period. Both had served in infantry battalions; Gul Hassan in Kohima and Sahabzada commanded 1/1st Punjab in 1948. Both had been ADCs to British commanders; Gul Hassan with Slim and Sahabzada with Lieutenant General Sir Reginald Savory, C-in-C Iraq-Iran Force in 1945. Both had been on the staff of the Quaid; Yaqub as the commandant of the GGBG, and Gul Hassan as the Quaid's ADC. Finally, both were bachelors until they took command of the division, and consequently both bordered on the verge of being eccentric. However, the two possessed very different personalities, which makes an interesting

study in contrasts.

Sahabzada Yaqub Khan, called Jacob by only his very close friends, replaced Sarfraz Khan and was the first and for some years after, the only armour officer to be entrusted with the command of Pakistan's premier armoured formation. He was also first in line amongst the bachelor officers who commanded armoured divisions, and the Corps had more than its share in subsequent years including Gul Hassan, Eftikhar Khan, and Shams ur Rehman Kallu. Sahabzada wed while in command, and there may have been an element of regret having been a very self-contained bachelor now marrying at a comparatively late age. One of the subjects he selected for a debate held for the officers of the division during his tenure was 'Blessed are the officers who are NOT married'.³⁸ Sahabzada Yaqub took command of the division shortly after it returned from TEZGAM, and lessons from the exercise were under intense debate. Sahabzada did not show his preference towards any one school of thought on the employment of armour however:

He did embark on a plan to educate the debaters on mechanics of armoured warfare that in essence consists of movement and administrative maintenance. He would refer to a photograph of Field Marshal Rommel pouring over a map with a compass in hand and a ruler lying nearby. 'This is how you plan a tank battle; cold calculations', he would say.³⁹

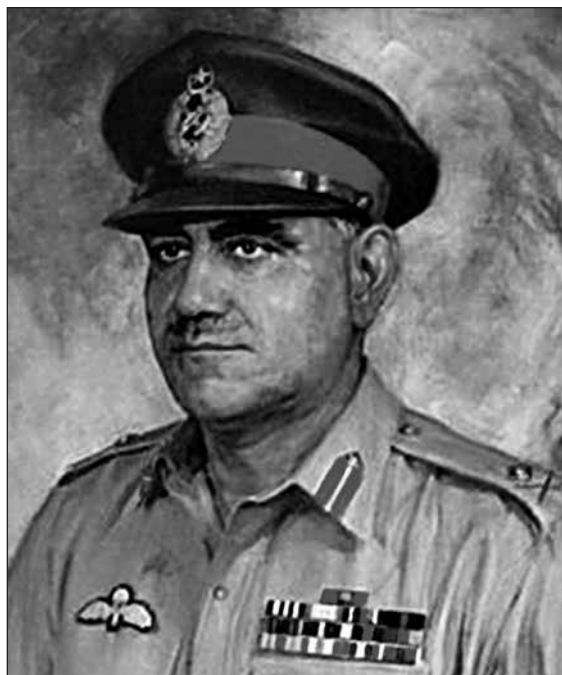
Gul Hassan, known as George behind his back, took over the command of the division with slightly less service than Yaqub. Compared to Sahabzada, who was slim and tall, Gul Hassan had a short and compact stature. He did not have the same social and cultural graces as Sahabzada and was neither as eloquent. During conversations, 'he sometimes left the later part of his speech somewhat not quite audible, and one has to guess what he was actually trying to say'.⁴⁰ Gul Hassan had served in Burma in an infantry battalion, and made a relatively late entry into the Corps. During his three years of commanding Probyn's Horse, he left an indelible stamp on

the regiment, and it is most likely that in the process of training the regiment he also trained himself. While he was commanding the regiment, the army conducted some major exercises spread over three years and in the words of the general: 'I was indeed fortunate to be with my Regiment all the while because such opportunities were to be few and far between as the years went by'.⁴¹ It is said that he commanded 1st Armoured Division like he commanded his regiment. Unlike Sahabzada Yaqub Khan, Gul Hasan was short on strategic vision but, 'He was the field commander, division and below, hell bent on tactics and the training of his men on the ground, troop to unit level'.⁴²

The command of the newly raised 6th Armoured Division passed from one infantry



General Musa addressing a parade of 1st Armoured Division in Kherian. To his rear is the GOC, Sahabzada Yaqub, and on the left is the Corps' commander, Bakhtiar Rana.



Major-General Eftikhar Khan, the architect of the success in Chhamb, in 1971.

officer to another, as Eftikhar Khan followed Abrar. From amongst the infantry generals, it was a good choice though the decision may have been partly influenced by the fact that Eftikhar belonged to the same regiment as Yahya Khan. Eftikhar Khan was a Janjua Rajput from Kharian, the very place he later commanded an armoured division, and was commissioned as an IECO in 1943 into the Baloch Regiment.⁴³ He had an excellent record of combat commencing from the Second World War during which he saw active service in North Africa, Sicily, Italy, and Greece. After Independence, he joined 3/10th Baloch (renumbered as 10th Baloch) and prior to the 1965 War, commanded a brigade during the operations in the Rann of Kutch and was awarded with a Hilal-i-Jurat, Pakistan's second highest gallantry award. He was recognised for his boldness, and an officer who inspired confidence among his men by being well up in front at the heart of the battle. He had a forceful personality and once an idea came into his mind, it was difficult to remove.⁴⁴ Eftikhar was a dedicated professional who very quickly settled down in the division, and training was at priority throughout his tenure of command.⁴⁵ He handed the division over to Major General Muhammad Bashir Khan in May 1969, who was replaced by Major General Muhammad Sikandar Kareem a few months before the 1971 War.

Further south, Gul Hassan was replaced by Aboo Bakar Osman Mitha and it was not a smooth transfer as the two officers had their differences. At an early stage of his service, Mitha was briefly introduced to armour. He was commissioned in 1942 in 2/4th Bombay Grenadiers, which was a motorised battalion under an armoured brigade near Madras. In 1944, the battalion was converted into regular infantry, and Mitha fought with it at Kohima through the monsoon season until he was evacuated suffering from serious dysentery. After recovering, he served in a parachute battalion at Rawalpindi, which may have been the reason for subsequently selecting him to raise the Special Service Group for the Pakistan Army. Mitha was the last infantry officer to command an armoured division, and he handed over the command to Jahanzeb from the Guides who was the GOC during the 1971 War. Like Mitha, Jahanzeb was extremely fit and as a brigade commander under Gul Hassan, had led the officers of the division in a Two Miles Test Run. The 1971 War marked a watershed in the officers commanding the armoured divisions. Jahanzeb and

Iskander Kareem were the last two commanders who had been commissioned during the Second World War.

Transformation of the Officer Corps

In the 1950s and 1960s, the officers of the Armoured Corps preferred the outdoors whether it was sport and games, or long spells of field training in winters. It was therefore natural that the priority was being a good field commander, and serving with the regiment. Studies or passing promotion exams took second place. The rules for clearing promotion exams slackened during the Second World War, and for various reasons this relaxation continued well after Independence, except for those appearing for the Staff Course Entrance Exam. Consequently, a number of officers were promoted to major and lieutenant colonel without even clearing the exam for a captain's rank.⁴⁶ Due to the expansion of the Corps and the two wars, through the 1960s, the policy remained relaxed. In 1968, the GHQ promotion board for the rank of lieutenant colonel approved Akram Hussain Sayed on the condition that he passed the Captain to Major Promotion Exam. The attitude towards courses was also similar. For most officers attending a course was an occasion to meet friends and generally have a good time. A few visibly studied hard; avoided wasting time in frivolous pursuits and were looked down upon as 'swatters'. The ones who were admired seemed to do everything except study, and yet passed out with a good grade.

Both the army and the Armoured Corps had a secular flavour, partly because the last of the British officers did not leave until 1956, and partly because a number of officers were married to foreigners.

The commanding officers of the 1950s and early 1960s were generally different from those that followed. The earlier ones possessed strong qualities of command and were good administrators. However, most had not spent their formative years in the tank garage, which was the kindergarten of officers commissioned into the Corps and consequently their technical knowledge was limited. Some who had initially served in armoured car regiments were neither familiar with, nor comfortable in, tanks. Following the 1965 War, the post-Independence cadre of officers qualified for command of regiment and senior staff and command appoints in the formations. Their quality can be judged by the line-up in 1st Armoured Division on the eve of the 1971 War. The three brigade commanders were Fazle Haq, N.D. Ahmed, and Agha Muhammad Javed. The colonel staff was K.M. Arif, and his GSO-1 was S.R. Kallu. Ali Gohar, Mian Muhammad Afzaal, Rafi Alam SJ, Alam Jan Masud and Sajjad commanded the armoured regiments.⁴⁷ From amongst these officers, one became the vice chief, and many of the remaining rose to the ranks of major and lieutenant generals.⁴⁸ 6th Armoured Division had an equally competent line up of regiment commanders including Khurshid Ali Khan, Raja Muhammad Iqbal, Sami Ud Din, and Abdul Hamid Dogar. All four commanding officers were professionals and bloodied in combat during the 1965 War. Three had fought the Indian main effort at Chawinda; Abdul Hamid Dogar with 22nd Cavalry, and Khurshid Ali Khan and Raja Muhammad Iqbal with 11th Cavalry. Raja Iqbal also had the distinction of being the first to roll into the Indian Occupied Territory of Jammu & Kashmir with his M48 squadron, and contacted Chhamb within few hours of the offensive on 1 September 1965. The fourth, Sami Ud Din Ahmed had commanded a squadron of 24th Cavalry in Khem Karan. More significant than the competence of the commanding officers was the mutual confidence and trust that prevailed within the armoured formations. This was probably one of the significant lessons that had been learnt from the environment in 1st Armoured Division in the previous conflict. Outside the armoured divisions, the commanding officers were no less competent and



Michael Wilson, 28th Cavalry, martyred in an accident in the operational area, in 1972.

included Shamim Yasin Manto, Akram Hussain Sayed, Z.A. Khan, and Muhammad Tufail. Many of these officers provided the Corps with its leadership during the 1970s and 1980s. On the other hand, in 1971, the service structure and qualifications of squadron commanders was not as impressive. During the 1965 War, most of the squadron commanders had between 10 to 14 years of service, were qualified from the staff college, and many had attended tactical courses in the USA. However, in 1971 many squadron commanders had fewer than six years of service and were not professionally as well groomed.⁴⁹

The last of the pre-Independence cadre of officers to command the armoured divisions were Syed Wajahat Hussain and Zia ul Haq. Both were excellent divisional commanders but differed markedly

in background and style. Wajahat came from one of the recognised Muslim families of the United Province and his ancestors claimed ancestry from Amir Kulal, who was the mentor of Amir Taimur. The author also claims ancestry from Amir Kulal.⁵⁰ Educated at Aligarh Muslim University, Wajahat was commissioned in May 1947 from the first regular course to pass out from IMA Dera Dun after the Second World War. His first platoon commander at IMA was Tikka Khan who rose to be the COAS of the Pakistan Army. Following Independence, Wajahat was selected as ADC to the C-in-C, General Gracy. He initially served in 19th Lancers, which he commanded 20 years later, but the majority of his regimental career was with the Guides, which he also commanded before the 1965 War. During the critical days of the Battle of Chawinda in 1965, he commanded a taskforce from an ad hoc headquarters. The war history of 6th Armoured Division records that, '...some of the decisive engagements, and the toughest tank battles of the entire war, which turned the tide of the battle in our favour, went to the credit of this small and inadequately equipped ad hoc HQ.'⁵¹ Following the war, he literally re-raised 11th Cavalry after the serious losses it had suffered in men and tanks during the Battle of Chawinda. Soon after the 1971 War, Wajahat Hussain took command of 6th Armoured Division while it was still in the field and his first task was to 'immediately address the problem of restoring morale...after some unfortunate rebellious events that had immediately proceeded'.⁵² With his height and slim build, and attired in a very distinct peaked cap and a greatcoat with large lapels, the GOC was admirably described by an officer of 11th Cavalry as 'looking just like a German general'. Wajahat Hussain had all the social graces of a good cavalry officer. Off-parade he interacted with his officers on the polo field, and incidentally was a keen and capable player. He was slightly reserved, but he and his wife had an open house. One of their endearing gestures was regularly inviting groups of young officers from the division to a simple dinner.

Having served with Wajahat in the Guides, Zia ul Haq was his close friend, but he did not have the same social graces and came from a more humble and conservative background. However, he was educated in St. Stephen's College, New Delhi, which was one of the oldest and very prestigious institutions in India.⁵³ His parents were from Jullundur and of the Arain clan whom the British favoured for their "hard work, frugality, and sense of discipline".⁵⁴ Zia ul Haq

was all of this and possessed humility that he carried all through his military service and later as President. After the incident in 13th Lancers in Indonesia he was posted to 6th Lancers. According to Ravi Rikhye author of the History of 6th Lancers, Zia was extremely religious even then, though not a fanatic by any means. He also liked Indian songs, which were precisely the two reasons that made him unpopular with the senior British officers of the regiment. After Independence he spent his early service in the Guides where he was known as *Mulvee*. His subsequent career progressed well. He was the brigade major of 3rd Armoured Brigade and attended two military courses in the United



The emerging leadership of the Pakistani Armoured Corps at a farewell dinner for 11th Cavalry at Kheiran in 1976. From left to right: Fazle Haq, Muhammed Hussian Awan, Muhammad Ahmed, and Khurshid Ali Khan.

States; the Armor Course at Fort Knox in 1959, and the Command and Staff Course at Fort Leavenworth in 1963. Following the 1965 War, and before he commanded a regiment, he was appointed the Grade 1 (Operations) in the headquarters of 1st Armoured Division. Here he served with two commanders who were diametrically far apart in their style of command – Sahabzada Yaqub and Gul Hassan. Abdul Qayyum who as a brigade major in the division during this period had a close working relationship with Zia ul Haq, recollected that Zia was, ‘a man of infinite patience, a sparkling sense of humour, always at work but never in a hurry. Punctuality never bothered him [either in] starting or closing a conference, he was perpetually running late but he kept running till the rest of us lost count of time.’⁵⁵ However, in his autobiography, the division commander Gul Hassan considered Zia the odd-man-out who was not very popular with his staff. It may have been for this reason that Gul Hassan eased him out to replace the commanding officer of 22nd Cavalry, and informed the regiment in a short Durbar that he was sending them his best lieutenant colonel.⁵⁶ In spite of his appraisal, Gul Hassan grudgingly concedes that under Zia ul Haq, the regiment improved somewhat.

The only dent in Zia’s career came when the head of the Pakistani military mission that he was serving with in Jordan initiated a confidential report on him with very negative remarks, but the report was quashed.⁵⁷ On his return from Jordan, Zia was appointed as the deputy divisional commander of 1st Armoured Division, and after the 1971 War became GOC. He was an effective GOC who appealed to the majority of officers and soldiers. He would drive himself to the office in a Mercedes that he had purchased while in Jordan, and en route give lifts to soldiers. Zia was a good trainer, and he did not allow officers to be promoted to the rank of major unless they were tested in a field exercise for a complete day.

Evolution of the Corps Culture

Prior to the Second World War, the armoured corps did not exist as an entity. In the middle of 1941, it was given the title of the Indian Armoured Corps (IAC), and a Major General Armoured Fighting



Hazur Ahmed Khan, Skinner’s Horse, with the MC earned by him in Italy in 1944.

Vehicles replaced the appointment of the Major General Cavalry. However, due to the very strong individual identities of many of the regiments, which were a carryover of the days of the irregular regiments, the IAC lacked a corps culture. When the irregular regiments of British Indian cavalry were raised, they adopted the *Silladari* system, which had its roots in the army of the Mughals.⁵⁸ A *Silladar* (an ancient Persian word meaning bearer of arms) was paid higher wages than a regular *sepoy*, and in return he provided and maintained his own horse, weapons, clothing, and equipment. Each sowar was a partner in the affairs of his regiment, he had a stake in its well-being, and its reputation affected him individually.⁵⁹



Charge of cavalry of the Northern Force on the guns during the Camp of Exercise at Delhi, February 1886. (Look & Learn)



Officers of 20th Lancers at the Armoured Corps Week in Nowshera in 1960. Standing, left to right: Javed Hussain, AG Abid, Shamim Alam Khan, Zulfiqar Khan, Nisar Ahmed Khan, Jehanzab Khan, Dildar Khan, and Roman (Roy) Joshua. Sitting, left to right, Rao Abid Hameed, Ghouse Mohiuddin, Muhammad Ayyaz Faruki, Akhtar A Shah, Raja Saroop Khan, Nasrullah Khan, and Amanullah Khan.



Major-General Gul Hassan with the staff of HQ, 1st Armoured Division, 1967. Front row, from left to right: Mian Afzaal, M.N. Malik, Alam Jan Mehsud, A. G. Mumtaz, Zia ul-Haq, Gul Hassan Khan, BUK Bebar, Habib Akbar, Aleem Opel, A. Z. Butt, and Naeem Hussain. Middle row, from left to right: Mahd Taj, Mahd Afzal, S. A. Shah, M Anwar, Ali Ghor, M. H. Sheikh, Ikramullah Khan, Saleh Muhammad, Muhammad Sharif, Muhammad Anwar.

Each regiment was raised by a British officer, most of whom were idealistic eccentrics.⁶⁰ They became icons of their regiments and left an indelible imprint of their personalities. Over the years, these regiments actually became something more than a mere unitary organisation. As they matured, they became living social 'organisms', with a regimental structure built around intricate interrelationships between individuals and groups, with a common empathy. It was too complex for an outsider to fathom, unless and until he actually became a part of the organism and was accepted.⁶¹

There was an attitude of mind that was common to all irregular cavalry regiments, 'an emphasis on regimental differences and

idiosyncrasies, a slight disdain for excessive enthusiasm, and parade-ground precision'.⁶²

Thus in the Armoured Corps that was formed at Independence, 'every regiment was a well-knit family, ever right, never wrong, and always the best'. The regimental affiliations were very strong, everlasting, and visible. Not so robust was the Armoured Corps' *esprit de corps*, though the officers took pride in calling themselves King of the Battlefield.⁶³

Some of the regiments had distinct peculiarities; the command of 6th Lancers was like being carried in a *palki* (a palanquin) implying that the CO had an easy tenure.⁶⁴ 11th Cavalry had the reputation that it was a difficult regiment to command.⁶⁵ 19th Lancers was known as a JCOs regiment, and with exceptional risaldar majors like Ali Musa and Asat Ali Khan, it is easy to understand why 19th Lancers was run so efficiently by its JCOs.

The strong individualisms of the 'original six' continued for a decade or more after Independence. In spite of the fact that they had a large influx of officers and men from other regiments of the pre-Independence Armoured Corps, their tremendous historical legacy provided a unifying force. The first step in the development of a corps culture came with the raising of the new regiments in the mid and late 1950s. Since these regiments did not have

a history or traditions that stretched back a century or more, they sought their identity with the Corps. Concurrently the raising of large armoured formations such as the armoured divisions diluted the individualisms of the original six. This enlarged the boundaries of cohesiveness by linking the self-esteem of the regiments to the reputation of a larger secondary group. The growth of a secondary vertical group relation created a commitment, and pride in serving in a larger military establishment to which the regiment belonged and shaped the *esprit de corps*. This was particularly visible in 1st Armoured Division in which the *esprit de corps* was even absorbed by the mechanized infantry battalions and the regiments of the self-propelled artillery. These units too felt part of an association, which

nurtured the belief that 'a man on a horse is spiritually, as well as physically bigger than a man on foot'.⁶⁶

After Independence, the army established a policy of each corps appointing a colonel commandant and Lieutenant General Muhammad Yusuf was the first for the Armoured Corps. However, it was not until 1974 that the Corps chose to appoint a colonel-in-chief. The installation ceremony for Prime Minister Zulfikar Ali Bhutto was hosted by 6th Armoured Division at Kharian because the Prime Minister was keen to visit a modern cantonment.⁶⁷ For the Armoured Corps the event proved to be controversial. There was some criticism on how the ceremony was conducted but more on appointing a civilian, and that too the leader of a political party.⁶⁸ Subsequently the Corps appointed two officers as Colonel-in-Chiefs – General Shamim Alam, and General Jehangir Karamat. Other ceremonies like the presentation of the National Standard and the Colours, also supported in building up the spirit of the Corps.

However, it was the Armoured Corps Week and the Reunions, which were foremost in consolidating the Corps spirit, and the first was held in Pakistan as early as in February 1948. It was organized in Lahore by Probyn's Horse with the support of 10th Division, which was commanded by Iftikhar Khan ex-3rd Cavalry. In spite of the Kashmir conflict, the personal bonds between the officers of the two dominions were still strong, and one of the guests invited to attend this Week was General Cariappa, the first C-in-C of the Indian Army, who was a great friend of Iftikhar.⁶⁹ Two subsequent Weeks were held at Risalpur by the Armoured Brigade, but when it shifted to Rawalpindi, the venue rightly shifted to Nowshera. It was now held annually and was a major undertaking for the Centre. It was initially held in November, but since this clashed with the schedule of field training in the winters, the event was shifted to spring. It was a great celebration with the officers' messes established under colourful *Shamianas* (canopies) in regimental colours, and arrayed in an idyllic setting along the bank of the River Kabul. When their teams were not on the sports grounds, serving as well as retired officers reclined under the shesham trees enjoying the view of the river, and reminiscing on the past. The senior officers always made it a point to call on as many regiments as they could, particularly those raised recently.

The Regiment

The bedrock of the culture of the Pakistan Armoured Corps was and continues to be the regimental system, and a culture that included four essential elements – discipline, professional ethos, ceremony/etiquette, and cohesion/*esprit de corps*.⁷⁰ Within this framework, every corps had its institutional culture, but not so the cavalry in which individual regiments had their own distinct identity, customs, and traditions. The cause of this largely was the *silladari* system that many of the regiments descended from, and the fact that the Indian Armoured Corps did not emerge as a recognised entity until the early stages of the Second World War. So strong was the individual culture of regiments that it did not allow a Corps culture to emerge until well after Independence. A number of factors emerging in parallel triggered the development of a Corps culture. These factors caused a dilution in the individualisms of the 'original six' and simultaneously strengthened the *esprit de corps*. However, the regimental system has always formed the foundation of the Pakistan Army, and was even more strongly nurtured within the Armoured Corps. Consequently, the culture that emerged was an interesting fusion of strong regimental identities set within the larger structure of the Corps. Some of the significant aspects of this culture were found in the regiment and its mess, the garrison club, in the manner in which the officers dressed,

and in games and sports. In his message to the Corps published in *The Sabre and Lance* in 1972, General Zia ul Haq stated:

The basis of the Corps spirit lies in the Regimental spirit. So it is not the black beret alone but the badge you put on it. Therefore, let us develop healthy regimental spirit. We must be proud of our regiment; build it up, but not at the expense of someone else.⁷¹

In the British India Army, the primary group-cohesion was the class-based company or squadron.⁷² Within a decade after Independence, the Pakistan Army mixed the classes within the regiment, which then became the primary building bloc. Regimental identity was stronger in the Armoured Corps than in the other arms and services, with each cavalry regiment (or lancers and horse for that matter), 'with different systems of ethos which have no resemblance to each other, but have their own unique identity of common value, exclusively their own; yet they form a part of the armoured corps'.⁷³ In spite of pressure from the general headquarters to adopt a single badge, as with other arms and services, every regiment retained the privilege of wearing its own badge and shoulder titles.⁷⁴ The purpose of the regimental system was to develop cohesion at the level of the unit, and *esprit de corps* within the hierarchy of loyalties; the Corps, Army, and country. It emphasised a sense of belonging to a military unit within which the management structure is mutually supportive, and from the commanding officer downwards, every individual is part of the building block. A soldier may not fight and die for the name of the regiment but for the bond he has with his comrades. The regimental system is the base for establishing and strengthening these bonds and provides a security blanket in which its members feel sheltered anywhere and everywhere.

Although the Corps has expanded, the regimental identity has not only persevered, it has been cultivated. Nowadays, it is rare to find an officer of the Armoured Corps who does not associate the best years of his service with the period he spent with the regiment. The regiment is home away from home whether it is in the field, or on border duties, or comfortably lodged in a cantonment. Returning to the regiment from a posting, course, or leave, the officer has a feeling of belonging as brother officers extend their welcomes and familiar faces greet him in the regimental lines and the garages. Even a curt nod to the subaltern from the commanding officer during the break for mid-day tea communicates an unstated *welcome back*. Fortunate are those who have served with the same regiment and never changed their badge, but good regiments try to assimilate every new officer who joins whether fresh from the academy or transferred from another regiment. Those officers who cannot adjust to the culture of the regiment, and its atmosphere ultimately move out. For the soldiers the sense of belonging to a regiment probably exceeds that of the officers who rotate out of the regiment a lot more. Except for an occasional tenure on Extra Regimental Employment (ERE), a soldier's entire career from sowar to risaldar major is with the regiment. Apart from a visit to the local market, from reveille until retreat, his time is spent within its precincts — the garage, the armoury, the sports ground, the unit lines, and the canteen. At all times and places within the regiment, he is under the watchful eyes of the senior NCOs and the JCOs. However, leadership rests with the officers.

A strong aspect of the culture within armoured regiments is the close kinship between the officers and the men. Though they generally belong to different strata of society, the officer-men divide within the Armoured Corps is probably the least, and only bettered by the Special Services Group. The reason may in part be due to the higher ratio of officers to soldiers than in other arms and services, but it also has a



Senior officers and their wives at the Armoured Corps Week, 1992. Front, right to left: Jamshed Malik, Jehangir Karamat, Mehmud Ali Durrani, Mrs Durrani, and Mrs Karamat. Rear row, right to left: Farakh Khan, Talat Saeed, Mrs Omar, Mrs Haque, and Abdul Haq.

historical base. In fostering the relationship between the officers and the men, the commanding officer plays a central role. He determines the atmosphere in the regiment and knits the family together from sweeper to the commanding officer. When Aga Javed Iqbal (fondly known by his initials of A.J.I.) was commanding Probyn's Horse in the late 1960s, the formation headquarters asked the regiment to send its most decorated soldier to meet a group of foreign soldiers who were on a visit to Pakistan. A.J.I. selected Neela, the head sweeper who was a veteran of the Second World War, and his set of medals included the Burma Star, Pakistan Independence Medal 1947, Pakistan Republic Medal 1956, medals of the 1965 War, and Long Service Medals. When the formation headquarters objected, the commanding officer informed them that Neela was the most decorated member of the regiment, and as an enrolled non-combatant, qualified as a soldier. His point of view prevailed and Neela represented the regiment.⁷⁵ The bond that exists within a regiment extends to the camp followers: the *dhobi* (washer man), the tailor, and the canteen contractor.

As a result of the culture that regiments inherited from the British India Army, the commanding officer exerted a great deal of authority. This was in spite of the fact that during the 1950s, the majority of commanding officers did not have more than ten years of service and there was not much difference in age and service between them, and the middle ranking officers in the regiment.

While ensuring good administration in the regiment was the duty of the JCOs, training and maintenance were the responsibilities of the officers. Training was centralised under the regimental headquarters while maintenance of the vehicles, arms, and equipment was largely a squadron affair. During the 1950s and early 1960s, with a five-man tank crew there were enough hands for the maintenance tasks. Steadily the crew decreased from four for the M48s and T-59s, to only three for the modern series. Concurrently the equipment became more sophisticated, and this placed a heavy burden on the manpower. Saturday has traditionally been the long maintenance day when all the officers and soldiers attend to the equipment. The Mechanical and Transport Officer (MTO) broadly chalks out the program and covers a range of activities related both to repair and inspections. The inspections could be linked to the operation of equipment like

the power controls of the main gun or checking documentation like the logbooks for correct and up-to-date entries. Subalterns were expected to work with their crews and get their dungarees and hands dirty. On the long maintenance day, the commanding officer did a round of the squadrons accompanied by the MTO as well as the officer or JCO commanding the Light Aid Detachment (LAD). Periodically the commanding officer would order a communication check of all the wireless sets in the regiment, and the inspection and tallying against the tool list of the entire tools and spares of each tank, which could go into hundreds. To ensure that the crews did not 'borrow' from others to make up their deficiencies, the inspection

was conducted simultaneously for the entire regiment.

The Light Aid Detachment, which is an integral part of the armoured regiment, had a very important contribution towards keeping the equipment in top condition. Manned by technicians from the Corps of Electrical and Mechanical Engineers (EME), the LAD was responsible for the first line repair of the tanks, vehicles, weapons, and wireless sets both in peace and in war. Its origin lay in a pool of well-trained technicians created within the IAC during the Second World War, who became key men in the units for repairing and maintaining equipment.⁷⁶ Following Independence and the acute shortage of officers, it was difficult for the EME to provide the authorised officers to command the LADs in armoured regiments. Consequently, a number of VCOs serving in the LADs were commissioned and promoted overnight. There were cases in which as a result of three rapid signals from GHQ an EME VCO was granted a commission, posted to an armoured regiment and promoted to the rank of captain. Not all such cases came up to expectations and the armoured regiments felt that 'they were losing a good VCO and getting an awful officer'.⁷⁷ However, the cadets who were commissioned from PMA into the EME and posted to the LADs became part of the family of the regiment. So assimilated were these officers that if there was a shortage of troop leaders during field exercises, they commanded a tank troop.⁷⁸

The performance of the LADs in both the wars was exemplary. Arriving with the supply echelons at night, they repaired the equipment in the front line, oblivious to the dangers. However, with an increase in the number of armoured regiments and for other reasons, it became difficult for the EME to post officers in LADs and the armoured regiments lost a valuable member of the team. As the equipment became more complex, the armoured formations depended increasingly on the armoured workshop. The armoured regiments with the infantry divisions continued to rely on their LADs since the infantry workshop companies often did not have technicians trained to repair tanks. The LAD provided a great deal of assistance in preparing for the Annual Technical Inspection, which was the ultimate test of how well the regiment maintained its equipment. Spread over three to four days, the inspection was a tense period for the regiment, which would have toiled for a month or more to prepare.

It was a shared effort and as with all such major activities in which the involvement is from the commanding officer to the juniormost sower, it fostered a strong bond within the regiment and strengthened the regimental system.

Outside the military, the perception was that the system within the army was autocratic. Actually, it was more akin to a family in which the patriarch while not relinquishing his authority, attempts to establish a family culture and spirit in which all the members think and act in harmony. The essence of the regimental system was that no decision was taken except what was good for the regiment,⁷⁹ and the monthly *darbar* provided the forum for the commanding officer to involve his command in the decision-making process. The *darbar* was an Afghan as well as Mughal military and ceremonial tradition, replicated by the Indian *silladar* cavalry regiments.⁸⁰ During these regular assemblies, a soldier was at liberty to discuss with his commanding officer anything that concerned him, questions could be asked, issues discussed, and commented upon, and future plans outlined. It gradually spread to the rest of the British India Army and represented a democratic element which was absent in British regiments of the same period but replicated in other colonial armies. The monthly regimental *darbar* was attended by all ranks including the followers (the head sweeper, barber, washer man, and canteen contractor), and continues to be a very useful event to regularly interact with other ranks, address their challenges and help them understand what is happening within the army and country. It was also used to motivate the soldiers, and a forum where the services of individuals was appreciated and recognised. In the *silladari* regiments, the *darbar* was attended in plain clothes because it was an informal gathering. However, it gradually transformed into a *darbar* parade, and became a much more formal affair and to some extent lost its original purpose and form.

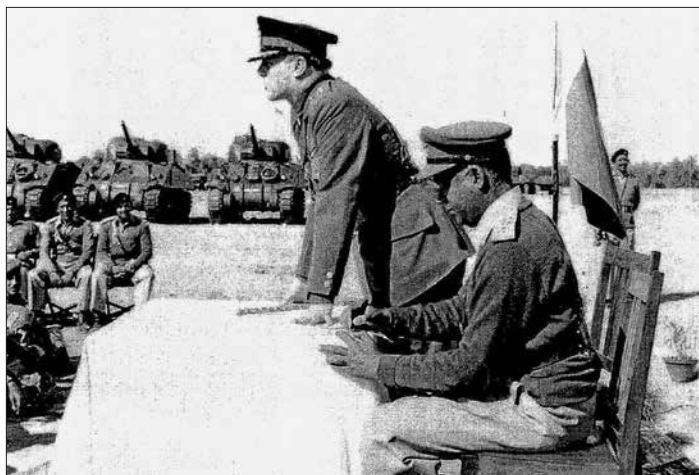
Regimental Mess and the Garrison Club

Until the 1970s, every armoured regiment had its own officers mess. The mess was the pride of the regiment displaying the trophies and other memorabilia.⁸¹ Newly joined officers were encouraged to view and learn the importance of the trophies because they formed part of their regiment's history and culture. At Independence the walls of the messes of the 'original six' regiments had been galleried with the portraits of British commanding officers and risaldar majors, their faces cobwebbed as the paint cracked.⁸² However, the portraits of British officers were returned to the United Kingdom, and replaced by portraits of Pakistani commanding officers.

The earlier ones were painted by the famous artist Hal Bevan Pitman and presented by the commanding officer to the regiment.⁸³ Breaking the monotony of portraits adorning the walls were battle scenes of an era gone by. The link with the pre-Independence past continued late into the 1950s. In 1959, Sir Hissam-ud-din Khan donated Rs. 1,000 to the officers mess of 11th Cavalry for a watercolour portraying the



An officer of the regiment was usually presented a silver cigarette box on his marriage.



Prince Aly Khan addressing a *darbar* of 4th Cavalry, commanded by Ghaus Mohuddin, in 1958.



A fine display of regimental silver of one of the senior regiments of the Pakistan Armoured Corps.

part played by the regiment in the Battle of Kohima.⁸⁴ Gradually the paintings in the messes of both the 'senior six' and the new regiments started reflecting a new-found heritage and history, with portraits of the officers martyred and paintings of battle scenes from the 1965 and 1971 wars. Also now displayed in the messes were paintings of cavalry from the Islamic and Mughal periods, calligraphy of verses from the



Mess Daffadar and waiters of Probyn's Horse on a final Dinner Night, at Rawalpindi, 1956.



The Peshawar Garrison Club.

Holy Quran, and the works of the national poet Allama Muhammad Iqbal.

Up to the early 1960s, there were two formal events held regularly in the mess; the Guest Night and the Dinner Night. The Guest Night played an important role in the development of the officers. 'Interacting on formal Guest Nights with dignitaries and senior officers of all shades and ranks, further enhanced their knowledge, self-confidence and ability to develop humour, understanding and build their overall character, the hallmark of a good leader.'⁸⁵ In spite of being a formal occasion, 'the regimental Guest Nights with all the officers in full mess kit regalia, followed by fun and games were the most enjoyable of all regular affairs of regimental life.'⁸⁶

Following Independence, the Corps strictly followed the ritual of four Dinner Nights a week with all the pre-Independence protocol,

including a toast to the British monarch at the end of the dinner.⁸⁷ They were conducted religiously even during the officer's conversion course at the Armoured Corps School. All the officers attended including those who were married, but 'the circumstances now were so different that the custom never caught on. The chief reason was financial. The married officers could not afford to pay what was a fairly substantial sum every month for messing, especially after pay was reduced by almost 40 percent in the name of patriotism.'⁸⁸ Even the bachelor officers found it difficult to make both ends meet. In 1952, a subaltern's pay was Rs. 425 per month after the deduction of Rs. 25 for the Provident Fund. The Daily Messing was Rs. 3.50 and the monthly mess bill was seldom more than Rs. 115.⁸⁹ However, after clearing the club bill, the rent for the bicycle, the pay of the *dhobi*, sweeper, tailor, as well as repaying credit of the previous month, there was no balance left. Most officers tried to live within their means because the second-in-command summoned those who by the middle of the month could not clear their bills. The majority who could not were those who drank. However, the Pakistan Army had never been a hard-drinking army and there is evidence that, with some flamboyant exceptions, this was even true of Muslim officers in the British India Army.

The Pakistan Army decided to abolish the regimental messes

in the 1970s due to financial stringency. The 'counter-productive, imprudent action...was a damaging retrograde action which has seriously affected the officers' overall standard and lowering the cardinal requisite of the army's esprit de corps...morally and professionally its loss was manifold in every respect.'⁹⁰ The values inculcated within the Armoured Corps were character and honour that were developed within officers through the culture in the regiment and the culture in the mess.⁹¹ When the regimental messes were abolished, the regiments lost an important adjunct towards the grooming of the officers. In spite of orders to the contrary, where accommodation was available, many regiments, particularly the senior ones continued to maintain a mess. However, most regiments converted the officer's tearoom in the regiment lines into a mini-mess where trophies, portraits, and other memorabilia that could fit in were on display. It was a poor

substitute for the atmosphere that prevailed in the regimental messes.

A less formal and consequently more popular place in the cantonment to gather in the evening was the Garrison Club. The relatively casual atmosphere levelled out the difference in rank and permitted the senior officers to mingle with the juniors. Officers of the same regiment mostly went together to the club, and it was a tradition that the seniormost signed all the *chits* (IOUs). There were no transactions in cash for food and beverages at the mess or club. Officers signed a chit and were billed at the end of the month. If a regimental commander had been rough with his officers in the morning, to make amends he would invite them to the club in the evening. In larger garrison towns, it was called the Station Club and had a sizable number of members from the civil as well as government circles. This not only added to the diversity, it enabled the officers to socialise with a wider spectrum of society.

One reason that the officers frequented the mess and club during the 1950s and early 1960s was that few could afford their own transport to travel outside the garrison. The well-to-do regiments had a mess car for use within the station that could be hired at a nominal cost. However, the primary means of conveyance within the garrison was the bicycle or a military surplus motorcycle, and in later days a scooter.

During the early 1960s, the culture that existed within the officer cadre of the Corps was a fusion of the traditions of the British India Army, and an emerging Pakistani culture. It was probably also at its liveliest. However, it slowly transformed due to changes both within society and within the military e.g. the regimental messes disappeared and were replaced by the Tea Bar; the officers club ceased to be a social venue; and sports was no longer the primary means of recreation or social interaction.

The Uniform

Post-Independence, the Pakistan Army generally continued with the dress culture that it inherited. Officers wore brown shoes; corduroy trousers were permitted as part of the *khaki* uniform, and until Pakistan became a Republic, *mufti* (civilian dress) was worn twice a week at general headquarters which conformed to the practice in the War Office in London. The Army Dress Regulation published in 1957 brought most of the army onto a standard pattern, but variations were permitted. The officers of the Armoured Corps had their own ideas of how to dress and many young officers dressed in a style which did not strictly conform to the army dress regulations. This was partly due to the legacy of the horse cavalry when regiments introduced minor modifications in matters of dress without reference to higher authority.⁹² However, a major reason was that the officers of the Corps considered themselves a breed apart. Again drawing from the traditions of the old surviving irregular cavalry regiments, which had been based on the *silladar* system, the Indian cavalry always felt that

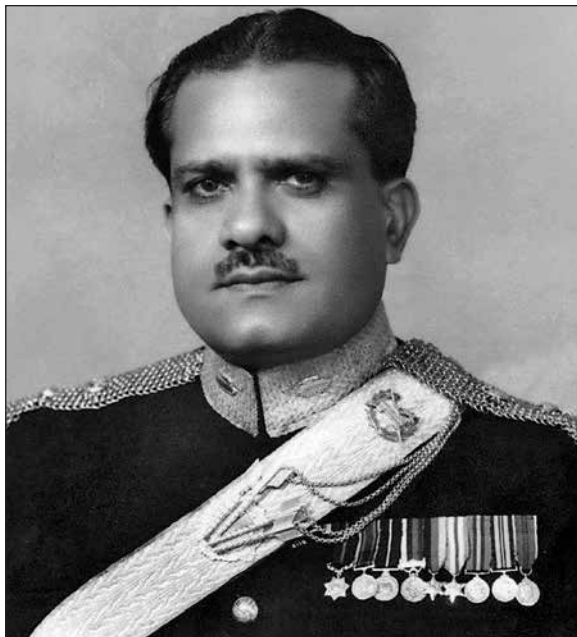


A proliferation of cars outside the Officers mess of 26th Cavalry at Jhelum in 1970.

they were socially superior to other arms and services.⁹³

Things changed in the early 1960s, with the appointment of Attiq ur Rehman as the Vice Chief of General Staff of the Pakistan Army. Though gifted with a great sense of humour, in his assignment he was tough and very particular that the army conformed to the rules and regulations especially related to the uniform. It was during his tenure that many of the idiosyncrasies in the uniforms of the officers of the Armoured Corps faded away but the reputation persisted for a decade or more. However, in spite of the efforts by the General Headquarters to make the officers regularly wear peaked caps, the Corps preferred wearing the black beret except on formal occasions such as inspections and visits by senior officers or foreign delegations. Interestingly, while these idiosyncrasies in dress were accepted within the regiment, a strict line was drawn on what dress was permitted and where. Officers could enter the mess only in uniform or when properly attired in civvies with a tie. If they were wearing a sports kit, they were served out on the lawn. A defining dress of the Armoured Corps were the black overalls called dungarees. The word originates from the Hindi word *dungrī*, which was a kind of coarse thick 2/2 twill-weave cotton cloth, often coloured blue. Though worn with the badges of rank, dungarees did not qualify as 'uniform' and they were permitted neither in the mess nor outside the regiment. Within the regiment, they were allowed in the training area or the garages, but not within the precincts of the regiment headquarters.

Another defining dress for the Armoured Corps was the Blue Patrol, which was worn as the winter mess kit. With its trappings of shoulder chains, *Tosh-dan*, side cap, boots and spurs, it was expensive.⁹⁴ Some officers were lucky to inherit it from their father or a relative, some were fortunate to be presented one by a retired officer of the regiment, some were financed by their parents and those who could not obtain it by any other means, had it stitched on credit and British cloth could be purchased at the outlets of the Canteen Stores Department. Two tailors of repute who stitched military uniforms in Rawalpindi were Mohammad Shah and Ismail Brothers. Both of them were over a century old but the oldest was Ranken and Co., Tailors and Outfitters, on the Lahore Mall. Every armoured regiment had its own pattern of Patrols and when an officer was posted to another regiment, he had to have it altered or a new one stitched.



Afta Ali, 6th Lancers, with shoulder chains and the regiment's *tosh-dan*.

Prior to 1962, when an officer transferred to another regiment, he was paid an allowance for making a new Blue Patrol. With fresh raisings and a regular transfer of officers between regiments, the Directorate decided on one standard pattern of Patrols for the entire Corps. It was patterned on the winter mess kit of the army with a stripe on the trousers, collar dogs of the regiment's badge, and the shoulder chains. The *Tosh-dan* was not worn with the Blue Patrols except on formal occasions similar to wearing a cross belt with the uniform. Since it cost a princely sum of Rs. 2,000 in the 1950s (because the braid was of pure gold thread), not many officers could afford one and lucky

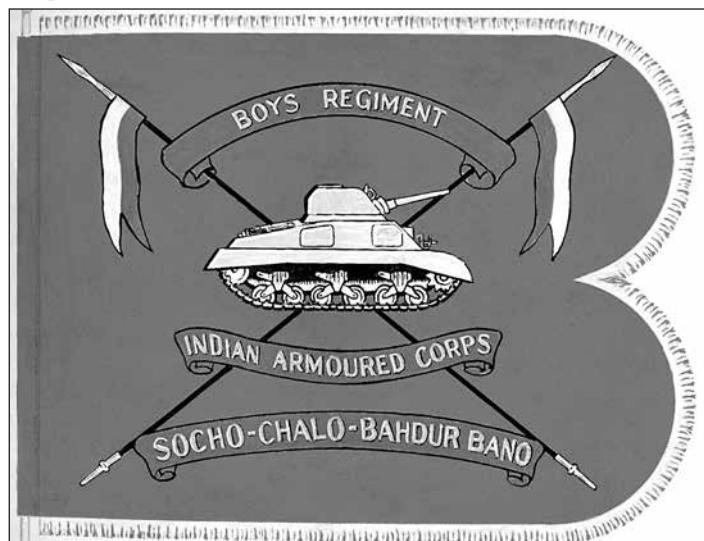
were those who obtained a *Tosh-dan* from one of the previous officers. When Khurshid Ali Khan was commissioned into 11th Cavalry, he was informed by Shahjang, the Mess *Aabdar* that on departing from the regiment, the previous commanding officer Sahabzada Yaqub, had left behind his *Tosh-dan* to sell to any officer for Rs.100 and the cash deposited in the mess fund. It was a fraction of the price of a new one and Khurshid bought and paid for it in 10 instalments.⁹⁵ There were a number of unsuccessful attempts by GHQ to remove the shoulder chains and *Tosh-dans*, but the Corps not only doggedly stuck to them, the *Tosh-dan* became a standard appendage to the patrols. The *Tosh-dan* is now also worn with the service dress more so since the army discarded the cross belt.

Black is the colour that the Corps identifies itself with; black dungarees, black belt, black berets, and even the web equipment is black. At Independence, neither the belt nor the web equipment was black. The soldiers called the web equipment *chamra* (leather) and still do because in the days of the horse cavalry, the sowars wore leather belts and crossings. The Armoured Corps wore brown leather belts and the officers wore brown shoes. The Corps converted to the black belt and web equipment in 1957 when the new Army Dress Regulations (ADR) were published, which also laid down black shoes for all officers of the army.⁹⁶ Though the Frontier Force regiments were also authorized black belts and web equipment, the Armoured Corps, jealously guarded its identity of the black beret.⁹⁷ Since its introduction to the IAC during the Second World War, the black beret (ordnance nomenclature: Cap RTR) personified all that represented the Armoured Corps.⁹⁸ Many officers joined the Corps for no other reason than the attraction of wearing a black beret. In his final interview before the Services Selection Board during the Second World War, Zia ul Haq was asked why he wanted to join the Armoured Corps. His spontaneous answer was, "I like the black beret."⁹⁹ Even as the COAS, Zia continued to wear a black beret and belt.¹⁰⁰

CHAPTER 2

TRAINING AND ADMINISTERING THE CORPS

At the conclusion of the Second World War, the Indian Armoured Corps was a well-led, well-trained, and combat-hardened force, but



The flag of the Boys Regiment of the Indian Armoured Corps at Lucknow. The motto was 'Think – go – be brave'.

for a number of reasons that have been discussed earlier¹, this was not what the armies of the two dominions inherited at Independence. While the Indians were fortunate to get the bulk of the infrastructure of the British Army of India, the Pakistan Army had to start from scratch. In spite of being a relatively small force of six regiments, like any combat arm, the Pakistan Armoured Corps required a training centre, a school of instruction, field firing ranges and manoeuvre areas, and a directorate to manage its affairs. With an enthusiasm fuelled by the creation of a new nation and its armed forces, the Corps vigorously set about establishing the essential building blocks. Within a few years, a simple but adequate infrastructure was in place that expanded and adjusted to support the Corps as it evolved. Both the Centre and the School kept pace with the expansion of the Corps, and to allow both to develop their full range of training activities, they ultimately bifurcated in the late 1960s. Concurrent with the expansion of the Corps was a southwards shift in the centre of gravity, and new areas had to be identified and developed for firing and for field training for desert warfare.

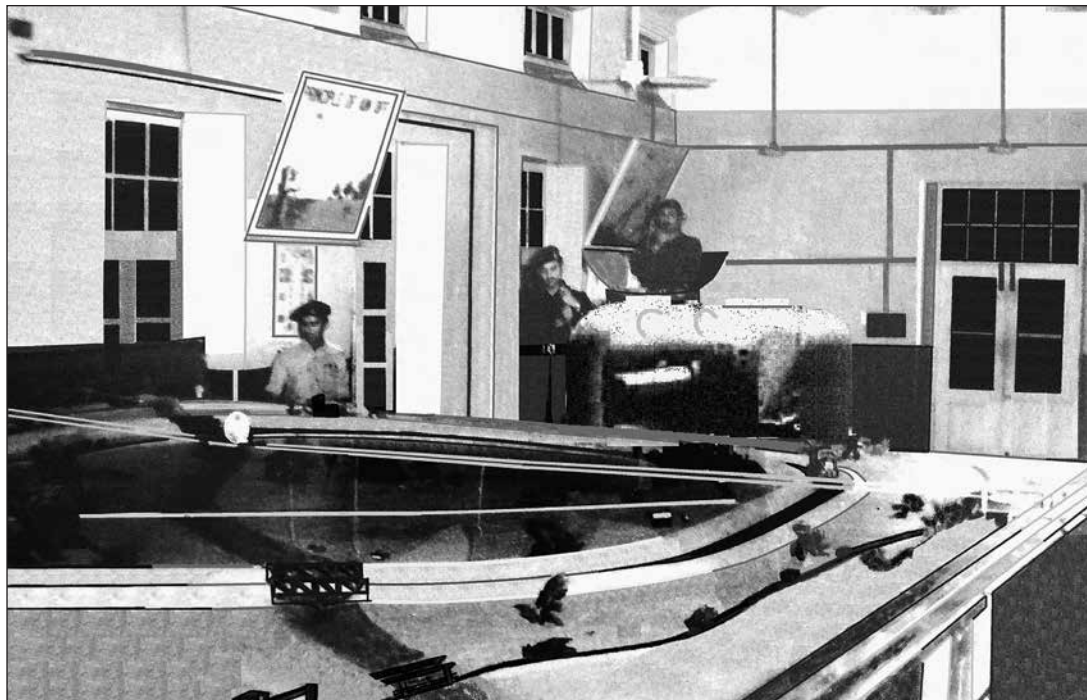
The Armoured Corps Centre and School

According to the initial recommendations of the Armed Forces Reconstitution Committee approved by the Joint Defence Council at Delhi, until April 1948, the Pakistan Army was to depend on the major training facilities in India. However, for a number of reasons including the change of attitude of the Government of the Indian Union, and the impending closure of the headquarters of the Supreme Commander at Delhi, the training establishments were divided in a hurry. By November 1947, a large portion of the Pakistani instructional staff, along with the trainees and equipment, were transferred to Pakistan by ship under Operation SEA CROSS, and sent directly from the transit camp at Malir to the stations earmarked for them.² Nowshera became the home of the Pakistan Armoured Corps somewhat accidentally, but was well suited for establishing the Centre and School due to the proximity of the firing ranges at Amargarh and the 3rd Armoured Brigade at Risalpur. Colonel Stroud, who was originally from Scinde Horse, was appointed as the first commandant. He was known throughout the Indian cavalry as 'Pop' Stroud, and was an expert trainer of polo ponies.

The Centre initially had a modest organisation of three wings; one for administration, another for the training of recruits, and a third commanded by Major Pir Abdullah Shah for the training of officers. It also had a Boys Wing that had moved from the Boys Battalion at Lucknow.³ It was commanded by Zia ul Haq and due to shortage of accommodation at Nowshera, was located 64km away at the small hill station of Cherat. It was subsequently commanded by Fazle Haq and Amir Gulistan Janjua, but ultimately disbanded. In January 1948, the organisation of the Centre was reconfigured into a Vehicle Wing, Recruits Wing, and the Technical Training Wing. The Officers Training Wing was renamed as the Instructors Training School, and together with the Centre, the entire establishment now carried a double barrelled title of 'Pakistan Armoured Corps Centre and School (Sam Browne's Cavalry 12th Frontier Force)'.⁴ In spite of all the teething problems, the Centre managed to complete the training of the first batch of recruits within eight months of Independence and held the first attestation parade in April 1948.

The Centre had barely managed to find its feet when the founder of Pakistan, Quaid-e-Azam Muhammad Ali Jinnah conferred on it a unique honour of a visit on 13 April 1948. His sister, Mohtarma Fatima Ali Jinnah, and Brigadier Gimson, the first advisor to the Pakistan Army on the Armoured Corps, accompanied him.⁵ The Quaid reviewed a parade, shook hands with the officers and delivered an address in which he emphasised the role of the cavalry and the importance of training. He declared:

Cavalry has always been the spearhead of the army. This is no less true in these days of mechanization than it was in the days of horses. To carry out their role cavalry must have the very best in officers



The Pellet Range fabricated at the Railway Workshop at Mughalpura, Lahore.

and men. Whether they do in fact attain this level, depends very largely on you. You produce the recruit and turn him out as trained soldier. Upon this training and teaching depends the efficiency of the Armoured Corps as a whole.⁶

In spite of only five years of service, Pir Abdullah Shah undertook the difficult assignment of establishing the Instructors Training School with his characteristic vigour. The support by 'Pop' Stroud, was invaluable in getting the school up and running. Pir's sterling contribution in laying its foundations coupled with his loyalty and dedication to the Armoured Corps while in service and after, rightfully earned him the unofficial title of Father of Pakistan's Armoured Corps. One of his first initiatives was to request the officers who were from areas within Pakistan to send their families home and make place for the officers who had migrated from India with their dependents. He also granted six weeks leave to the officers and soldiers who had migrated to enable them to contact their relatives in Pakistan. The pioneers who assisted Pir in establishing the School were all captains. Sahibzada Aitizad ud Din was in charge of driving and maintenance, Hashim Ali Khan in charge of communications, Usman Shah in charge of gunnery, and Mohi Ud Din was the quartermaster.⁷ Due to a shortage of qualified instructors both in technical and tactical subjects and an absence of training facilities, the School was attached to the Army Staff College and the EME School, both located at Quetta. The Tactical Wing (Armour) formed at the Staff College under Lieutenant Colonel Reynolds, MC, ex 19th Lancers, conducted its first course for 15 officers in 1948. Some training models and charts had been brought from India, but they were mostly out-dated. Pir had the foresight to bring the blueprint of a 'Pellet Range' from the Gunnery School in Lulworth, UK, where he had attended the Advanced Gunnery Course before Independence. Working off these drawings, the North Western Railway Workshop in Mughalpura, Lahore, fabricated a model of the range for the school. Though not used anymore, the School still has the Pellet Range to remind future generations of the ingenuity, hard work, initiative, and dedication of the pioneers. In 1997, Pir was invited to the School and while visiting his 'favourite spot' was pleased to see that 50 years later the Pellet Range had been preserved. In spite of its meagre resources and other handicaps, in its first year the



General Ayub and Brigadier Eccles at a polo match at Nowshera. Standing behind is Pir Abdullah Shah.

School trained 60 officers and 245 JCOs/NCOs. The earliest courses at the School for officers were for those recently commissioned and converting from other arms and services. Unfortunately, at this early stage, the training staff of 25 JCOs and NCOs was not well qualified, but they improved considerably through a process of trial and error.⁸

The efforts of the pioneers who established the School were soon put to test with a demonstration organized for students of the Staff College on tank-infantry cooperation and the cross-country capability of tanks. However, more challenging was a visit in March 1948 by the C-in-C, General Gracey, who was from the Armoured Corps and a class fellow of Stroud. During his visit to the Centre, 'the commander-in-chief was impressed with the esprit de corps that prevailed, and was pleased to find that the officers and soldiers were putting in their heart and soul into making the Centre worthy of the high prestige of the armoured corps'.⁹ General Gracey was particularly interested in assessing the skill of the student officers in tank firing. Standing on a Sherman at the Amangarh Ranges, he personally indicated the targets to the tank crews and the results achieved were 100 percent.¹⁰ This was no mean feat considering that the Sherman was equipped with a 75mm gun with a velocity of only 620 m/sec (2,000 fps), and the fire control system was very basic.

After serving as the commandant for nearly two years, Stroud returned to UK in October 1949, and was succeeded by John Wakefield. He was the last of the British officers to command Poona Horse and after Independence, he commanded 19th Lancers. His elder brother had commanded Royal Deccan Horse. Wakefield had a remarkable personality. 'From the humblest sweeper to the most senior Indian officer, it is no exaggeration to say that they loved him'.¹¹ He had made a name for himself as a first-class regimental officer, but like many other regular officers, spent the Second World War almost continuously on staff appointments. He commanded the Centre for 14 months and was succeeded by Sikandar 'Sikku' Ali Baig, the first Pakistani commandant who took over in January 1951. Sikku's tenure was short and Garnett Eccles, another British officer succeeded him. Eccles had a great deal of experience in training having spent much of the Second World War at Ahmednagar and Ferozepur in mechanising the horsed cavalry regiments. He had commanded 11th Cavalry at Secunderabad after the regiment returned from Indonesia. He was

a noted tennis player and at the age of 21 had competed at Wimbledon and later became the Army champion.¹² It was during his tenure that land was procured in the Kaghan Valley 'to build a hut for the exclusive use of Armoured Corps personnel'.¹³ The purpose was to enable officers and their families to spend their vacations in the mountains.¹⁴

The first Pakistani officer to play a major role in developing of the Centre and School was I.U. Babar who took over in early 1954 and remained as commandant for over three years. Prior to his tenure the progress in developing the institution had been slowed by financial difficulties, but with US military assistance in

the pipeline, there were considerable improvement in the facilities. Concurrently the procedures, drills and training policies were streamlined, and the Centre and School which until now had been conducting technical training only on the Sherman and Stuart tanks, geared up for the M24s and the more sophisticated M47s and M48s. During Babar's tenure, the Centre also underwent significant restructuring. In 1956, the Boys Wing was disbanded, and the Centre was reorganized into three training squadrons and a vehicle squadron. 'A' Squadron was responsible for basic training, 'B' Squadron for trade training, and 'C' Squadron for training of recruits for the regiments of self-propelled artillery. In 1954-55, Babar established the Boat Club on the bank of River Kabul near the mess. It was named after a country boat at the site that was frequently used in winter for shooting ducks on the river. Sadly, on a complaint by the deputy superintendent of police at Nowshera related to a minor incident, Babar was demoted and posted to a regiment. He refused to accept the demotion, and chose to retire from the army.¹⁵

Gussy Hyder was next in line and maintained the momentum established by Babar. The Corps was undergoing its first major expansion and manpower had to be posted to the new regiments. Concurrently the army abolished the system of class-based squadrons and companies that had existed for 150 years. Therefore, the Centre had to re-adjust the entire manpower according to a new policy that maintained a ratio in each regiment of two of the three classes in the army; the Punjabi Muslims, Pathans, and MS&Bs.¹⁶ The vigour and drive of officers like Gussy Hyder who were assigned important roles in the Corps during the 1950s is admirable. With a service of only 16 years or less, they were handling issues that in later years were addressed by officers with nearly twice the service. It was also during Gussy's tenure, that the Centre began constructing the Armoured Corps Hut near Naran in the Kaghan Valley. Consisting of a living area and three bedrooms, it was situated in the middle of one of the best spots for trout fishing in Pakistan. Starting in the early years with keen anglers from the Corps like Shahid Hamid and el Effendi, the hut and its surroundings have delighted generations of officers of the Corps.¹⁷ The location was pristine but before the road up the Kaghan Valley was improved in the 1990s, the journey took a full day or more of hard driving from Rawalpindi, and the treacherous and narrow

road up the valley could only be traversed in a Willys Jeep.¹⁸ The period during which the hut could be utilised in summer was also relatively short as the road opened only in mid-June (once the glaciers across the road had been cleared), and closed by the end of September. Closer to home, Gussy improved the Boat Club, which his predecessor had established. Located on the banks of the river, it was an ideal place to spend a hot summer evening with a cool breeze wafting over the water. The club now had two tennis courts and a playground for the children. It also screened an outdoor movie once a week, which before the arrival of TV was eagerly awaited both by children and by adults.¹⁹

Until the early 1960s, the Centre and the School continued with some of the practices and teachings that prevailed in the Armoured Corps prior to Independence but were now out of date. For example, the best and most educated recruits were trained as wireless operators and the next best as drivers. The drivers' trade was the most attractive because on retiring, a soldier could find employment.

The gunnery of the Sherman and Stuart tanks was simple and normally the least educated and the dopyest recruits were selected as gunners.²⁰ Most ended up as batmen because the gun and its fire control system required little routine maintenance and the gunners were the least required within the regiments.²¹ Consequently, when the M47/M48 tanks were inducted, while the drivers and operators quickly mastered this new equipment, amongst the gunners there were only a few who could competently operate the stereoscopic range finder. The Centre should have selected the most intelligent recruits to be trained as gunners, but the Armoured Corps was not inclined to change or shed what it had brought from Babina where the Armoured Corps Recruits Training Centre was located before Independence.²² Another carryover from the days of the Second World War was the training on semi-indirect fire with high explosive ammunition. Ostensibly, its purpose was to engage targets, which could be observed by the tank commander, but not the gunner. Students at the Armoured Corps School argued that such a situation was unlikely, but since it had been taught at Babina during the Second World War, the School considered it gospel. When Riazul Karim, the Director Armoured Corps was informed about this anomaly, he recalled that semi-indirect fire had been taught to the crews of the Lee-Grant tanks for operations in Burma where he had served. The 75mm main gun of the Lee-Grant tank was mounted in an offset sponson in the hull along with the gunner, and much below the station of the tank commander. Since this equipment was not in service, the Centre and School were instructed



The old Armoured Corps Hut at Naran, constructed in 1956.



The main drive of the Armoured Corps School in 1974.

to delete the subject from the syllabus.²³

After the departure of Gussy in 1959, the period right up to the 1965 War was probably one of the busiest periods for the Centre, in managing the raising of new regiments and training a large number of recruits. The Corps was fortunate that after commanding the Guides Cavalry, Pir replaced Gussy and commanded the Centre for three years. Since he had been one of the founding fathers, he was the ideal choice for commanding this institution at a time when the Army and Corps were being modernised. His sentiments expressed 40 years later bear testimony to how important he considered the institution, which in his words "...are the real home of Armoured Corps. Serving us like a cradle serves a child, in its warm and radiant ways; it has always been a beacon and had given us the right direction in our professional endeavours."²⁴ He was succeeded by Muhammad Aslam Khan who carried on with the momentum set by his predecessors, and after two years the command passed on to Colonel Muhammad Umar Khan. Umar was an IECO who had been commissioned into 2nd Lancers during the Second World War and joined 13th Lancers at Independence. From 1957 onwards, he commanded the Guides for two years and then commanded 11th Cavalry. This regiment had the reputation of not easily accepting commanding officers from outside its fold, but Umar had a remarkable personality. He was highly respected in the Corps and became a role model for the officers of 11th Cavalry. Apart from changing the mind-set of the regiment from recce to armour, he also energised it in sports. His term as the

Centre Commandant was tragically cut short by a fatal road accident on 21 July 1963 near Burhan while he was driving from Nowshera to Rawalpindi. His death was a shock to the Corps and the Army and he was long mourned and remembered. All the officers of 11th Cavalry contributed towards commissioning his portrait by the well-known artist Hal Bevan Pitman. Followed by the brief tenure of Umar, the next commandant Muhammad Faruq Khan had a sizable tenure during which he guided the Centre through the period of the 1965 War. It was hard work since the Centre was acting as a reinforcement camp receiving and despatching reservists to the regiments. On the eve of the war, the Centre also raised an ad hoc squadron with the soldiers and tanks of the Centre and School, and it fought in the Chhamb Sector. The squadron was commanded by Major Ata-as-Saboor and was issued Sherman IIs with the 75mm gun.²⁵

The inter-war years were a challenging period for the Centre and School since the Corps had expanded considerably and was equipped with a variety of AFVs. Both these training establishments were coaching on six different types of tanks, and their associated equipment – the M24s for 29th Cavalry in East Pakistan; Shermans for many of the newly raised regiments like 26th Cavalry; T-34s for 15th Lancers; T-55s for 24th Cavalry; M47 and M48s for regiments of 8th Armoured Brigade and some of the infantry divisions, and T-59s for all the rest. In addition to the equipment of the Armoured Corps, they were also training crews of the armoured infantry on the M113 APC, and of the artillery for Priest and Sexton self-propelled guns. During the tenure of Muhammad Khan, who took over as commandant in 1969, the Centre and School were bifurcated. The affairs of the School obviously used to take up a lot of the commandants' attention and time, and his office was located within the premises of the School. The bifurcation now enabled the commandant to not only concentrate on the Centre, but also take a more direct role in Corps affairs. One of the major tasks in hand was revising and adjusting the class composition of the regiments that was necessary due to fresh raisings and a substantial increase in the quota of recruits from East Pakistan. Many of the Bengali recruits were earmarked for 29th Cavalry, which was in the process of being raised for the eastern wing, but their quota in the Corps as a whole had also increased. With this high volume of work and the burden of supporting a growing number of regiments (they had increased to 22), GHQ decided to upgrade the commandant of the Centre. Mohammad Khan was promoted brigadier, and the Centre was authorised a deputy commandant and an assistant quartermaster general. By the time Ejaz Azim took over as the next commandant, the situation in East Pakistan had deteriorated and the move of Bengali soldiers to the eastern wing was put into reverse gear. Consequently, the Centre was now involved in adjusting them into armoured regiments in West Pakistan.²⁶ The workload increased further with the need to recall a large number of reservists and despatch them for service in the Civil Armed Forces operating in East Pakistan. All these arrivals and departures created pressure on the accommodation, administration and training in the Centre. The pressure built up to an extreme as war became imminent, and more reservists were recalled and sent as reinforcements to the regiments.

Unlike 1965, during the 1971 War, the Centre did not field an independent squadron, but its contribution was significant primarily because of one person, its commandant: Nisar Ahmed. On the day that the hostilities commenced, he had been in chair for less than two months, and was then despatched to command an ad hoc brigade-sized force to fight a battle of delay in the Shakargarh Salient. Mustering two jeeps with wireless sets from the Centre, within 24 hours he drove 400 kilometres to the combat zone, and as expected his command of Changez Force was exemplary. With a mission to delay the Indian

offensive for 48 hours, the force managed to prevent a breakthrough for nine days. Just before Nisar ended his short, but eventful command, Sikandar Khan joined the Centre as the Assistant Quartermaster. Sikandar Khan (lovingly called Sikku) 'had an ingenious mind and an eye for everything fine and took on the task of improving what he considered to be the ugly and cancerous spots in the Centre.'²⁷ He initiated a long overdue face-lifting and renovation of the Centre including the Boat Club and Mess, which was completed during the tenure of Fazlur 'Freddi' Rehman. After Nisar's tenure, the Centre had four commandants within three years. However, with the arrival of Abdul Mokeet Khan in December 1975, the tenures stabilised and during his two and a half years, a great deal was accomplished. Due to the problems of vacationing at the Armoured Corps Hut at Kaghan, Mokeet Khan procured land closer at Kalam on the upper reaches of the Valley of Swat. Kalam was open for a longer duration of the year than Naran and far easier to access being half-a-day drive from Rawalpindi and even less from Nowshera. Constructed on an area of 2,500 square meters, the accommodation had much more living space than the hut at Naran. There were three guest rooms, and four independent chalets, each with a large bedroom and a sitting-cum-dining room. Until the 1980s, the River Swat also provided good trout fishing and some of the side valleys were extremely mesmerising. Concurrently, Mokeet also conceived the plan to construct a kind of resort at Gharyal Camp near Murree for those officers who could not venture as far as Naran or Kalam.²⁸ However, this project took many years to accomplish.

During the 1970s, the Centre was geared to administer and train nearly 800 recruits a year for the Corps through courses lasting 42 weeks. However, when the raising of regiments recommenced in the 1980s, General Headquarters nearly doubled the ceiling of recruits to 1,240. Unfortunately, what General Headquarters did not sanction was a corresponding increase in the organisation of the Centre except for a few officers. Until this time its organisation was two training squadrons; 'A' Squadron for basic recruit training, and 'B' Squadron for trade training. Training squadrons were also responsible for the administration. To cater for this increased output, in 1985 the Centre carried out an internal reorganisation under Sadiq Akbar, by upgrading the squadrons to regiments and re-designating them as 1st Cavalry and 2nd Lancers. One regiment was responsible for the entire administration of the recruits and the second, organised into four squadrons, for all the training, which continued to be of the same number of weeks. It seems that this system of bifurcating the training from the administration was impractical. It lacked an element of shared responsibility within the officers and staff, around the clock monitoring of the recruits, and a spirit of competition between the two regiments. Consequently, 10 years later, in 1996 during the tenure of Khan Tariq Egbal, the Centre reverted to the tried and tested system, and both of the regiments were given the responsibility of training and administration.

There was a significant improvement in the standard of education of the recruits entering the Corps. Until as late as 1977, the minimum requirement for enrolment was 6th Class and out of the 785 recruits inducted into the course that year, there were only 94 matriculates, and just six had qualified in the Faculties of Art or Science. However, service in the military was becoming increasingly attractive due to a good pay and service package, and a scarcity of jobs in the private sector. There was also a corresponding improvement in the general standard of education and the standard for enrolment was raised to 8th Class. Concurrently, the maximum age for recruits was reduced from 25 to 20 years. Within five years, in the batch of 1982, there was nearly a 40 percent increase in recruits who were qualified as matriculates

and in the Faculties of Arts and Science. This improvement could not have come at a better time. The main battle tanks issued to the regiments from the late 1980s onwards demanded a higher level of education and mental alertness to take advantage of their speed and agility, as well as the range and accuracy of the main gun.

While the Centre focussed on its prime purpose of training, it also undertook a number of other ventures for the betterment of the Corps. The project in the Murree Hills conceived by Mokeet Khan ultimately materialised not at Ghariyal but at Khanaspur, an idyllic location set within the Ayub National Park. It was only a two-hour drive from Rawalpindi, and within reach of officers posted as far away as Multan. The accommodation was very substantial with 14 guest rooms in a double story structure, some allotted by the directorate and Centre, while others by the divisions. Concurrently work also commenced on the reconstruction of the Armoured Corps Hut at Naran, which had been demolished by an avalanche. It was relocated to a safer location nearby, and redesigned with four bedroom suites. Construction commenced in 1996 during the tenure of Khan Tariq Eqbal and was completed in 1997. It goes to the credit of the Corps that it had done better than any of the other arms and services in establishing excursion centres for its officers, some closer and more accessible, like Khanaspur, and others for the more adventurous at Kalam and Naran. During the long tenure of Zia ul Haq as President and Chief of Army Staff, the Corps had a distinct advantage. A new mess, along with quarters for the students attending courses was constructed at Nowshera. Another mess for the Corps was inaugurated at Rawalpindi in 1985 with a large number of guest rooms for serving and retired officers visiting the station. When General K.M. Arif was appointed as the Vice Chief of Army Staff in 1984, he pursued the idea for a monument to commemorate the 389 sons of the Corps who had sacrificed their lives during the two wars with India. Constructed at a cost of Rs. 2.5 million collected through donations from regiments, officers and soldiers, it was inaugurated by General Zia ul Haq in 1987. Arif also had the idea of establishing an Armoured Corps Museum at Nowshera, but it took 10 years for the project to materialise. From its start as an organisation with a limited role of training, in 50 years the Armoured Corps Centre had emerged as the home of armour in its true sense.

This short history of the Centre would be incomplete without mentioning one of its showpieces, the Armoured Corps Band. The first conference of the commanding officers of the Armoured Corps held in 1948, decided that the Corps should have a brass band. The Centres of various Punjab Regiment Groups were being amalgamated and on a request by Brigadier Stroud, a band of 30 members along with their Band Master Wazir Ali was transferred to the Armoured Corps Centre. The instruments were purchased from 8th Punjab with funds generously provided by Probyn's Horse. Due to a keen interest by Brigadier Eccles, it became a recognised band and frequently performed at state functions. While the band was adept at playing marching tunes and national songs, it was equally capable of playing a wide variety of popular music. It would be difficult to find an officer of the Corps who has not swayed to the band's captivating rendering of the famous Pakistani lyric *Chandani Raten* (Moonlight Nights) with which it opened its performance. It also had the talent to pleasantly surprise guests from Western nations by its rendering of old favourites like *La Paloma* and *When The Saints Go Marching In*. The size of the band gradually expanded to 50 members and during the tenure of I.U. Baber, for the first time it participated in the Pakistan Day Parade at Lahore in 1956. By this time, the original members that had come from the Punjab Centre were retiring and during the tenure of Gussy Hyder, new members from the Armoured Corps were trained as

replacements. From 1967 onwards, the Army annually held a Band Competition in which the Armoured Corps Band also participated, but it took some years to prove itself. In 1981, it came second and four years later, Risaldar Major Muhammad Amin was first in a competition of bandmasters.

The School of Armour

With the pressure created by the Kashmir War and the Fifty-one Flap, at its very early stage the School was overloaded with students fresh out of PMA and the OTS. To meet this heavy load, it was concurrently conducting two basic courses for young officers with each course split into two groups; those posted to armoured regiments and the other for officers serving in the recce regiments. Apart from the basic courses, the School was conducting eight courses for officers out of which four were specific to the Sherman tank. Similar courses were being conducted for JCOs/NCOs with a great deal of emphasis on what was considered as the difficult subject of wireless telegraphy. It was subsequently renamed as just 'wireless' and finally 'communication'. Due to a shortage of officers, the army decided to abolish certain courses in 1951. Consequently the Tactical Wing at the Command and Staff College at Quetta was closed but the Tactical Wing (Armour) was permitted to continue on the condition that it moved to Nowshera.²⁹ As a training institution, the School was now complete conducting both tactical and technical courses.

The foundation of the school laid by Pir was built upon by his successors; Ghafoor Khan Hoti, Jehanzeb, Sultan Ahmed, Sultan Khan Cheema, and 'Kaka' Nisar. All of them were majors and followed in rapid succession as the Corps tried to juggle its officers to fill various billets. In 1955, the appointment was upgraded and Rao Liaquat was the first lieutenant colonel to command the School. Until now, the School was only an adjunct to the Centre and not considered to be of much importance by the majority of the officers of the Corps.³⁰ However, when the Centre was reorganized in 1956, the School now commanded by Gul Hassan, was given a new identity and renamed as the Armoured Corps School. In the reorganisation of the syllabus that occurred between 1956 and 1965, the technical courses were no longer equipment specific and merged the training for the variety of



Colonel Umar Khan who died in an accident in 1963, while commanding the Centre.



The Marching Brass Band of the Armoured Corps Centre.

equipment held with the Corps. Consequently, the courses were re-designated as Gunnery Instructors Course, Technical Officers Course, Wireless Instructors Course, etc. The induction of the US equipment brought with it a huge range of technical and tactical manuals for the school library. What was greatly sought after by officers attending a mechanical course at the Armoured Corps School was a US Army technical manual TM 9-8000, Principles of Automotive Vehicles. It consisted of over 30 chapters that provided basic descriptive information on automotive vehicles, and how the systems operated. Parallel to the technical training, there was also a focus on tactical training and a Junior Tactical Armour (JTA) Course was introduced for aspiring squadron commanders. Apart from the JTA, some other courses, like the Officers Technical Course, started admitting students from the mechanized infantry and the self-propelled artillery regiments. This was the first step towards the School developing into a training institution for mechanized warfare.

To cater for the large number of regiments that were added before and after the 1965 War, the intake of the School nearly doubled. It was now recognised as a major training institution and in 1969 was designated as the School of Armour. The post of its commandant was upgraded to a brigadier, which brought it at par with the Centre. It also brought it at par with the other army schools of instruction like the School of Infantry or Artillery, for example. S.R.C. Daniels commanded it for the next three years and one of his early actions was to design a new emblem for the School. It consisted of a triangle, whose three points represented the characteristics of armour i.e. firepower, mobility, and communication. The mailed fist represented the power of armoured forces, and the torch symbolised knowledge and learning. Its red and yellow colours were of the Armoured Corps and the circular shape reflected the shields carried by the Muslim warriors of a bygone era.³¹ Daniels' military experience went back to the Second World War and he not only made significant improvements to the training précis's and aids, he also ensured an improvement in the quality of the instructors.³² However, after the 1971 War that there was a major restructuring of the courses and a revision in the syllabus. Credit for this goes to the keen interest taken by the commanders of the two armoured divisions – Zia ul Haq and Syed Wajahat Hussain.

Their main concern was the tactical training of officers, and they introduced a Senior Tactical Armour Course for senior majors likely to command armoured regiments. They also introduced a tactical exercise with tanks for the Junior Tactical Armour Course. There had long been a requirement for an armoured squadron for the tactical training of students and conducting demonstrations. 5th Independent Armoured Squadron, which had fought so well in the Shakargarh Sector during the 1971 War, was deservedly relocated to Nowshera in 1972 as the training and support squadron for the School.

While the primary mission of the School was training, it performed an equally great service to the Corps by publishing *The Sabre and Lance*, which was the journal of the Armoured Corps. The headquarters staff of the Centre published the early issues, but the responsibility was transferred to the School in 1956, and the officer commanding the School became the editor and the Centre Commandant the editor-in-chief. The first issue was published in 1953 during the tenure of Eccles and the aim of the journal established by him was 'to provide new thoughts and provide means for airing such thoughts'.³³ Apart from articles of a professional interest, the journal also had a chapter on regimental news that contained some very interesting accounts and included sporting events, postings, visits by dignitaries and old members of the regiment, marriages and births. Thus, the journal also performed the role of an annual newsletter for the Corps. Unfortunately, this chapter was discontinued in the early 1960s, probably because the number of armoured regiments increased.

In these early years, there were interesting contributions that were more general in content. Articles like 'The Pakistan Coronation Contingent' by Lieutenant General Muhammad Yusuf, and the account of a polo match between an Indian and Pakistani team in Lahore in 1954 by Hesky Baig make attractive reading.³⁴ In the 1960s, with a fresh breed of professionals emerging in the Corps, the articles started addressing hard-core aspects of armour operations. The 1963 edition of *The Sabre and Lance* contained two such articles, one by Muhammad Ahmed on fire and mobility, and another by Mian Muhammad Afzaal on tactical communication. By 1964, 10 issues of the journal had been published but subsequently there was a long gap of five years brought on by the 1965 War and its fallout. In 1969, when

the School was delinked from the Centre, it became solely responsible for publishing the journal and in 1970 the journal was revived. It goes to the credit of the School that through the trauma of 1971, it kept up with the publishing. Except for some breaks, the journal appeared yearly, but in 1988, it was decided to publish it biannually because the cost of printing had escalated.

For the next 20 years, the School diligently continued in its primary mission of basic and advance training of officers as well as a large cross section of the JCOs and NCOs of the Corps who in turn imparted their knowledge to the rank and file in the regiments. By 1995, it was training students on a new generation of AFVs including the upgrades of the T-59, the M48A5s and the T-80UDs. It was also training crews on the M113A2 armoured personnel carrier for the mechanized infantry and on the M-109 self-propelled gun that had arrived with the US military aid package. More significant was the emphasis on combined operations that mirrored the changes that had occurred in the equipment and organisation of the army. Within the Corps, this translated into a greater emphasis on 'all-arms' and the operations of combat teams and groups. In view of these changes, when Jamshed Ali Khan was commanding the School in 1993, it was re-designated as the School of Armour and Mechanized Warfare and the original emblem was altered to reflect this role of the School.

The Armoured Corps Directorate

The origins of the Armoured Corps Directorate and its Director General, goes back to 1880 when Lord Roberts appointed an Inspector General Cavalry. It brought about a revolution in the training of the Indian cavalry and the fitness for war of the *silladar* cavalry regiments. The '*History of the 19th King George's Own Lancers 1858-1921*' states that:

There is no doubt that the work put in by these Inspectors of Cavalry was of inestimable value; they evolved method out of chaos and built up the spirit of keenness, both in study and skill, which has since then been the characteristic of the arm. From being considered the officers in the army who took least interest in their profession, they (the cavalry officers) became known as the keenest.³⁵

The appointment of Inspector General Cavalry was subsequently re-designated as Major General Cavalry. At the beginning of the Second World War, the General Staff Branch of the British India Army had only three directorates; Military Operations and Intelligence, Staff Duties, and Military Training. Attached to the General Staff Branch were senior officers from arms and services who carried the old designations of Major General Cavalry, Major General Artillery, Signal Officer-in-Chief, etc. To assist them was a junior staff officer from the same arm posted in the Directorate of Staff Duties. In 1942, the Army established individual directorates to deal with each of the



Farrukh Khan and Naeem (Nigger) Ahmed, attending the YO's course in the early 1960s.

arms and services, and other branches. However, the Directorate of Armoured Fighting Vehicles had just a brigadier with a small staff. Based on the recommendations of Lieutenant General Martel, Commander Royal Armoured Corps who was touring India in 1942, the post was upgraded. The appointment of Major General Cavalry was abolished and Major General Gairdner was appointed as the first Director Armoured Fighting Vehicles with a large staff of 12 officers. He was soon replaced by Major General Messervy.

With the conflict in Kashmir following so soon after Independence, the development of the infantry was at a priority and the Armoured Corps trailed behind. Consequently, the Pakistan Army neglected to form a directorate for the Armoured Corps, which was vital for regulating its affairs and solving the evolutionary problems.³⁶ K.M. Idris performed the dual role of commanding the brigade as well as advising the Army on matters related to the Corps and shuttled between Risalpur and Rawalpindi. He used to spend half the week in Risalpur, and the other half at GHQ, Rawalpindi. To assist him was a section within the Military Training Directorate with Major Ritter, a British Grade-2 staff officer, and two clerks who had arrived from Delhi in September 1947. Brigadier W.A. Gimson was appointed as the first permanent advisor for the Corps at General Headquarters. He was initially a gunner officer who had served in Tochi Scouts and then transferred to the Guides Cavalry. He was a famous *Shikari* (hunter) who had shot over 40 tigers from the ground instead of a *machan* (a raised platform).³⁷ He arrived in Rawalpindi in January 1948 with his guns, dogs, and horses.³⁸ During his tenure, a separate directorate of two sections was established, one dealing with issues as diverse as organisation, training, operations and administration (including officer postings within the Corps), and the other dealing only with equipment.³⁹

The directorate expanded in the tenure of Haji Iftikhar who was posted from 3rd Armoured Brigade to GHQ but until 1955, the appointment was still that of an advisor. Sahabzada Yaqub Khan took over from Hesky Baig as the first formal director and the staff at the directorate now included a Grade-1 lieutenant colonel. A major responsibility of the directorate during the 1950s was managing the postings of officers. While the Military Secretary's Branch posted officers outside their arms and services on Extra Regimental

Appointments and staff, the directorates carried out all postings to and between the units, approved the promotion of officers until the rank of majors, and recommended officers for foreign courses.⁴⁰ The posting of officers to regiments included those fresh from PMA and methodical as he was, Sahabzada Yaqub used to task the staff to conduct a detailed assessment of each officer and match him with a regiment.⁴¹ However, in 1962 the responsibility for the postings of all officers shifted to the Military Secretary's Branch. It was considered a good decision because the directorates were becoming too powerful. On a single phone call from a commanding officer, the director could transfer an officer to another regiment. On the other hand, the Military Secretary's Branch was a neutral establishment that handled such cases more dispassionately.⁴² While posting officers out of regiments, the Military Secretary's Branch took into account those who were specified as Hard Core in the monthly officer's return. These officers were considered important to be retained in the regiment for its efficient running. While this continued until after the 1971 War, the Military Secretary's Branch seldom considered it a valid reason not to post them out.

Next in line after Sahabzada was Bashir Ahmed from the Guides and amongst the early directors, he had the longest tenure. His first — from October 1959 until March 1964 — was one of the most significant periods for the Corps involving fresh raisings of regiments and formations, induction of US equipment, major field exercises like TEZGAM and MILESTONE, and the reorganisation within the Corps to conform to the New Concept of Defence. The directorate had to deal with diverse issues. Z.A. Khan who was serving on the staff of the directorate received a complaint from the armoured regiments that for the past two years they had not been issued ammunition for training. The MAAG had stopped the supply, but the fault lay with GHQ. It turned out that a civilian staff officer in the Directorate of Weapons and Equipment, was transferring it to the stocks of the War Reserve and when the Americans found out, they stopped supplying training ammunition. Eventually, GHQ released the ammunition and the annual firing by the Armoured Corps resumed.⁴³ Just before the 1965 War, Brigadier Riaz-ul-Karim was appointed as the director with Hashmat Bokhari as his Grade-1 staff officer. With war clouds on the horizon, only an officer as experienced as Riaz-ul-Karim could energise the directorate in keeping pace with the pressures. Though many capable brigadiers were posted to the directorate in the next ten years, unfortunately very few were promoted as major generals. The exceptions were Wajahat Hussain, whose tenure was of only three months, and Khurshid Ali Khan. However, by the mid-1980s, there had been a substantial increase in the size of the Corps and in 1986 the post was upgraded with Roshan Ejaz appointed as the first Director General of the Armoured Corps.

During the 1980s and into the 1990s, the Armoured Corps Directorate was probably one of the busiest directorates in the General Headquarters. To match the Indian build-up, the Corps went through its second major expansion both in the number of regiments as well as formation headquarters. Coupled with this the second US Military Assistance Program was underway requiring a number of policy decisions. Concurrently, there was a large overseas deployment of Corps personnel in Saudi Arabia, and related issues needed to be resolved. The Corps also required a tank to match the Indian T-72 and the directorate was involved with conducting field trials first on the M1A1, and some years later on a Yugoslav — as well as a Polish — variant of the T-72. There were also trials on the T-80UD and extensive negotiations with the Ukrainians before the latter tank was finally inducted. Alongside this was the induction of tanks from China, and the directorate also supervised the part-manufacture and

upgrade of the T-59s undertaken by HIT. With robust tank induction, manufacture and upgrade programs underway, the directorate could now plan for the future. In 1990, it prepared a master plan that provided a roadmap on how the Corps would evolve in the next two decades and the distribution of its assets.

Field Training and Firing

The two essentials for the field training of armoured regiments and formations are areas for exercises and firing. In the early years, while the brigade was at Risalpur, it carried out field training either on the Bara Plains near Peshawar or on the Plains of Chach near Mansar Camp.⁴⁴ Apart from training with the tanks, there was also a great deal of emphasis on 'long distance' signal exercises. When the bulk of the armoured regiments moved to Rawalpindi, field training shifted to areas closer to this garrison town. Wajahat Hussain recollects: 'I moved my squadron camp to Barra Kahu where we manoeuvred on excellent training ground of rolling beautiful valleys around Nurpur Shahan. I trained my squadron in the area which is now the Islamabad Diplomatic Enclave, Constitution Avenue, and the Presidency.'⁴⁵ The principle training areas were around Fatehjang and Chakwal. Badly eroded and frequently intersected by deep and partially dry ravines, the Potohar Plateau in northern Punjab was not the ideal terrain for training in armour operations. It also bore no resemblance to the river corridors where armour was likely to operate during a conflict. However, in those days of austerity, fuel and track mileage (running miles allotted for the year) were very restricted, and this was the closest area where regiments from Rawalpindi and stations in the north could assemble and train.⁴⁶ The army avoided conducting major exercises close to the border with India and the desert of Thal, and later the district of Sargodha was the preferred choice. When the armoured division moved south to Kharian, the area across the Bhimber Nalluh west of Gujrat provided good training country for squadrons and regiments. Since this area was not intensively cultivated, unimpeded manoeuvres could be conducted in the dry season, and names of villages like Guliana, Daulatnagar, and Kotla became part of the training vocabulary of the division.

The first firing range used by the regiments and by the Centre was approached through the village of Amangargh, seven kilometres west of Nowshera on the Grand Trunk Road. This range was in use well before Independence, but primarily for the artillery and was therefore called the Nowshera Artillery Range. The terrain was a stony undulating plain, intersected by shallow dry watercourses that flowed down from a mountain range 17 km to the south. It had a small safety arc and was only suitable for classification fire and for battle runs by tank troops. A regular event held at these ranges until the 1965 War was the Inter-Regiment Main Gun Firing Competition. It was part of the Army Rifle Association Competition, (Armoured Corps non-Central Matches), and conducted over three days. A troop of tanks along with three teams from each regiment participated, with one team in reserve. The Armoured Corps Centre hosted the competition.

Much before the actual competition, the teams started concentrating at Nowshera... and with no work to do because the rules forbade any firing before the competition. The result was that all these unwelcome visitors kept sitting and arguing in the various offices of the AC Centre and School.... A few days before the competition, the AFV and Butt Judges started arriving.... After the usual briefings, objections and counter objection, the competition finally got going.⁴⁷

The regiments competed for two cups, the O'Moore Creagh Cup

and the 32nd Lancers Cup, and the two matches included static firing and battle runs.

In 1951, 13th Lancers was the first regiment to bring the AFV firing ranges at Tilla 'into operation to bring the gunners on the beam'.⁴⁸ The range is about 25 km to the west of Jhelum city, sandwiched between the River Jhelum and the mastiff of Tilla Jogian.⁴⁹ While it had a substantial spread at the base for armoured, infantry, and artillery units to fire alongside, it had limited depth. As it extended into the base of Tilla (which provided a good stop for ricochets), the terrain became increasingly fractured, reducing the space to carry out battle runs. However, the range was relatively easy to access, with tanks de-training at Jhelum and lifted by tank transporters to the banks of the Kahan River. During wet weather, the Kahan was a serious obstacle. Until it was spanned by a bridge, many vehicles were trapped in the unpredictable torrents rushing down from the Salt Range past the historic fort of Rohtas, and into the River Jhelum. Before the city of Jhelum expanded westward and the area up to the Kahan became heavily cultivated, most regiments used the 20 km from the cantonment until the firing range for conducting exercises. In spite of its limitations, Tilla became the principal firing range for the armoured formations and regiments, as well as all the other arms, in the northern Punjab. Consequently, it remained a busy range with the headquarters of I Corps controlling its allotment. The period spent at Tilla was always enjoyable because there was plenty else to do apart from the schedule of firing; picnics and duck shoots at Rasul Headworks, stalking partridges through the ravines, a day's excursion to Rohtas Fort or for the more adventurous to the summit of Tilla Jogian. The really fit and daring stumbled through the hills north of Chakri at night to get an early morning crack at a Urial antelope.

The shift to the south after the 1965 War opened up new areas for manoeuvre and training. There were sufficient spaces around Multan for training squadrons, but for the training of regiments and formations, the division had to cross the River Chenab or further west the Indus. During the tenure of Gul Hassan, 1st Armoured Division conducted a major exercise in the area of Dera Ghazi Khan, but on a regular basis it was the desert north of Muzaffargarh that was frequented. It was a hard area to train in, blistering hot in summer and in winter the mercury tipped below freezing when the *Kandahari* (a very cold south-easterly wind) blew down from the Afghan plateau. The Muzaffargarh Ranges were very sandy, and this was not only a problem for the movement of tanks, but also created problems for the artillery. E.A.S Bokhari, who was commanding an artillery regiment in 1st Armoured Division, recalls:

Muzaffargarh Ranges are a treacherous bit of sandy terrain with few features and map reading aids. It also has problems for the gunners as the sand is not a good platform for the guns – and the gun/firing data can shift due to sandy terrain unless the equipment is secured firmly to the ground – which was not easy as most of the gun areas were sandy and loose. We had to improvise in a big way to produce



The officers and staff of the Armoured Corps Directorate on the eve of the departure of Brigadier-General MMA Baig in May 1955.

stable firing positions.⁵⁰

Whatever the limitations of Muzaffargarh Ranges it had one very big plus; for the first time armoured regiments had AFV ranges adjacent to the areas of field training.

While 1st Armoured Division continued to use the ranges at Muzaffargarh for classification fire until the early 1970s, because of its limited safety arc and loose sandy soil, it was unsuitable for field firing. Consequently, the division looked towards the large expanses of the Cholistan Desert, which lies east of the River Sutlej and extends until the border.⁵¹ The desert covers an area of 26,300 sq km and some millennia earlier, the River Hakra irrigated it. Initially the Division developed a firing range at the Feroza near Reti-Rahim Yar Khan, but it was difficult to access and because of sand dunes, the spaces for manoeuvre were restricted. A more suitable portion of the Cholistan Desert was the area of Khairpur-Tamewali (KPT) that lies alongside the Bahawal Canal. The terrain is semi-desert with low sand dunes, scattered acacia trees, scrub, and elephant grass. The most interesting feature of this desert are the large completely flat and open spaces that the locals call *dhaars*. They are hard-packed silt and clay, and the larger ones can extend up to seven kilometres in length and three in width. They are also featureless and the only reference points are the *tobas* and the tracks crisscrossing the desert.⁵² While the *dhaars* provided practically unlimited space for field firing and manoeuvre by the Armoured Division, KPT had other advantages. A railway line enabled the tanks, heavy equipment, and ammunition to unload close to the training/firing areas and the belt of trees along the canal provided a good base for administrative support. In 1969, 12th Cavalry, commanded by Shah Rafi Alam, was the first regiment to exercise and fire at KPT. That same year, the Armoured Division commanded by Mitha followed in its tracks to carry out field firing, and field exercises for the brigades and the division.⁵³

From then on, KPT became the primary training area for the Armoured Division. Just as the names of villages around Kharian became part of the training vocabulary of 6th Armoured Division, 1st Armoured Division and other armoured formations and regiments who subsequently trained at KPT, became familiar with the names of *tobas* and *dhaars* like Kandewala and Rodewala, and desert forts like Marot, Meer Garh, and Fort Abbas. Until the introduction of GPS, the

sun compass was the primary means to navigate accurately by day and night, and regular competitions in navigation were conducted. The best feature of KPT was the firing range, which had a good arc of fire and sufficient depth. The annual classification fire was the ultimate test for the gunners. When the fire control systems were unsophisticated, the zeroing of the main gun was tedious, and conducted painstakingly. Guns with a problem could take up to five or six rounds to achieve a hit within a few feet of the bull. The squadron that zeroed their guns in with the least number of rounds considered its gunnery superior to the others. After the gunners were put through their practice fire, if ammunition had been issued at a liberal scale, inter-squadron firing competitions were held. At KPT, the regiments could also have the experience of culminating the field training and annual classification

fire with a live firing exercise. This was the closest that the regiment came to what it would be doing in a war. A major improvement carried out at the ranges was installing a trolley for practicing crews on firing at a moving target. Mir Abad designed and developed it with the support of Sufi Industries at Multan. Mir Abad was one of the technical gurus of the Armoured Corps and so successful was the design, that the German Army adopted it.

The last of the field firing ranges developed for the Corps was at Kotri, west of the River Indus near Hyderabad. Like the firing ranges at Nowshera, it had initially been utilised by the artillery, and became a tank firing range when 30th Cavalry moved to Sind before the 1971 War. However, when the armoured brigade was raised at Malir, Kotri was fully developed as a range for armoured fighting vehicles.

CHAPTER 3

FIELD EXERCISES AND DOCTRINE

During the Second World War, the British India Army had no unified war-fighting doctrine, and it differed from one theatre to the next. Its only experience of armoured operations was in North Africa, and in the counteroffensive by the Fourteenth Army in Burma. Thus, the operational and tactical concepts, organization and training of

the Pakistan Armoured Corps after Independence were a fusion of the experience in these two theatres. Deep manoeuvre culminating in an attack on enemy gun positions or headquarters was the high point of major exercises conducted in the late 1950s and early 1960s. Concurrently there was a desire to emulate the offensive operations



M4A1 Shermans at the Nowshera Artillery Range, with the Kabul River Valley in the background.



Al-Zarrar tanks firing at Tilla AFV Range.

of the German army during the Second World War, though the Pakistan Army lacked a codified all-arms doctrine that had been the bedrock of the Wehrmacht's success. This desire existed not only within the Armoured Corps but also within the Army in general and was reflected in the setting and conduct of the major field exercises prior to the 1965 War. It was reinforced with the induction of a fleet of relatively modern tracked vehicles acquired through the first US Military Assistance Program (MAP). It took two wars for the Army and Armoured Corps to modify its tactical and operational thought and synchronise it with the operational environment astride the Pakistan-India border. It was only after another ten years and with the benefit of the second US MAP that the Army and the Armoured Corps had the means to establish all-arms groups for conducting mechanized operations.

From HAZARD to AGILITY

As the first of many confrontations with India ended in April 1952, the regiments of



T-80UDs traversing the sand dunes of the Kudai Field Firing Range near Multan.



The early years of the KPT Firing Range: a T-59 rolls past an L-19 of the Army Aviation.

the armoured brigade relocated to their new garrison at Rawalpindi. Over the next few years, the new chief, General Ayub Khan, who was putting new life into the Army, conducted several major manoeuvres.¹ In 1951, the Army established a Training Advisory Staff (TAS) with officers seconded from the British Army, whose function was 'to set, coordinate and conduct exercises at GHQ level'.² The TAS consisted of six British officers including a major general, and was assisted by the director and staff of the Military Training (MT) Directorate at GHQ.³ There are conflicting opinions on efficacy of the TAS. Some viewed its performance as commendable and that the exercises were realistic.⁴ Others were less complimentary. In their opinion while the exercises were lavish in the staff detailed for directing, control, umpiring and administration, the training content was limited to practicing elementary battle drills.⁵ In a training directive issued in 1951, the suggested number of umpires for a division in a two-sided exercise with troops was over 120.⁶ 'Whereas the roster of important events hardly covered a full scape sheet, the instructions for umpires etc. covered hundreds of sheets...Some of the exercises with troops were two-sided. The aspect turned out a fiasco, as vain efforts were made to simulate hostile fire with narratives'.⁷

There was an intense focus on field exercises and within a short span of two years, the army conducted four. 'So novel was this experience for a large number of officers and soldiers, that some of the earlier exercises held during 1952 And 1953 like HAZARD, ZALIM, MERCURY, and SLEDGE HAMMER became household words in the army'.⁸ HAZARD was conducted in the area of Pindi Bhattian, in central Punjab, during the winter of 1952 before troops moved back to their peace stations after the Fifty-one Flap. 10th Division supported

attempting to manoeuvre. Within the army, the exercise came to be known as 'HapHAZARD'.

These early exercises were small in comparison to the scale of troops that participated in the army exercises 40 years later. However, in the early 1950s, the Pakistan Army was not large and was referred to as 'the five and a half division army'. The half was the armoured brigade, which contained the only three tank regiments on the ORBAT of the army. With this small tank force, the employment doctrine in 1950 was strictly defensive. Training Directive Number 6 issued in December 1950, stated that:

The primary role of the armoured brigade was to either independently or in conjunction with an infantry division, destroy the enemy's superiority in armour. To carry out this role the enemy armour was to be enticed into a killing ground where it would be destroyed by a combined force of the anti-tank defence including anti-tank guns, mines, artillery stonks and tanks dug in or in hull down positions.¹¹ [The training note emphasised that,] Head-on melees between tanks, such as those common in the Western Desert in World War II will be avoided.¹²

This thinking was reinforced in Training Note 11/1951, which stated:

In spite of numerous directives on the subject of dug-in armour by the C-in-C, there has been a school of thought which has persistently opposed this doctrine. The C-in-C has now ruled categorically that his orders on the subject will be obeyed.¹³

by 6th Lancers advanced against a controlled enemy consisting of 101st Brigade commanded by Brigadier Atiqur Rehman which was supported by a squadron of 13th Lancers. 6th Lancers was still a light armoured regiment equipped with Daimler Armoured Cars and the opposing squadron of 13th Lancers was using T-16 Weapon Carriers. To conserve their tanks, each armoured regiment had been issued 48 carriers. Five carriers in the squadron, (one each for the squadron headquarters and troop leaders), were fitted with No. 19 wireless sets and within the troop, the carriers were controlled with flag signals.⁹ In the opinion of Brigadier Z.A. Khan: 'This was the start of the mistake in armour training which emphasised movement rather than fire because the Carriers could move but there was no practical method of simulating gun-fire'.¹⁰ Apparently, the exercise did not go well for 10th Division and the armoured cars of 6th Lancers, which were leading the advance astride a canal, got stuck while



A tank crew training in a Bren Gun Carrier near Talagang in 1957.

To assist the officers in reconciling their views, an article on the Battle of Alam Halfa written by Lieutenant General Brian Horrocks was attached to the training note. Horrocks commanded XIII Corps during the battle in which a British armoured brigade of Grant tanks destroyed German panzers from dug-in positions and broke the back of the Afrika Korps.¹⁴

However, in 1954 when the Pakistan Army successfully acquired \$26.5 million worth of tanks and other military hardware through the US Lend-Lease Program, it reviewed its doctrine on the employment of tanks. The previous doctrine was considered too rigid and largely nullified the main characteristic of armour, which was its flexibility.¹⁵ Consequently, the doctrine was amended and in subsequent exercises, the armour was employed more aggressively. The tactical concepts that subsequently evolved were influenced by the experience of the armoured corps in North Africa and Burma, the hallmark of an exercise with troops was a wide manoeuvre, and appearing in the rear of the enemy was consistently encouraged.¹⁶ Most of the training was carried out in the Potohar Plateau where the terrain provided sufficient opportunities to conduct well-concealed moves that outflanked enemy positions. However, neither the topography nor the manoeuvres executed over it related to the conditions on the Pakistan-India Border in the 1965 War.

Until the early 1960s, field training was held only in winter and all the armoured regiments departed for what the *Digest of Service* of 13th Lancers refers to as its yearly pilgrimage of exercises.¹⁷ The Winter Collective Training lasted for three months and culminated in a major exercise. In the initial stages the troop leaders and squadron commanders were given a great deal of independence in training their troops. A troop leader with 13th Lancers recalls: 'For troop training I took my troop with carriers and for seven days camped independently without any interference from the squadron commander and the commanding officer, although both came and observed the training. After the troop training, the squadron training was conducted in a similar manner'.¹⁸ At the regiment level, the training was conducted keenly and systematically went through the major operations of war as well as nightlong cross-country moves over rough terrain in the areas of Fatehjang and Chakwal.¹⁹ Exercise SLEDGE HAMMER was conducted in 1953, and was the first major exercise for the armoured brigade with the 'new' US equipment. It was run within the Thal Desert, which forms part of the Sindsagar Doab between the River Jhelum and the Indus. With a width of 100 km, it stretches for about 320 km along the Indus. The western part of the Thal Desert was being developed into arable land along with a road network. However,

most parts of it were featureless and for the armoured brigade, it 'was the sun compass, which always carried the day amidst the vast expanse studded with sand dunes'.²⁰ The Sun Compass had been widely used in North Africa by Commonwealth forces during the Second World War.²¹ The shadow of a steel pin (or gnomon) on a dial calibrated for different latitudes indicated the direction of the north. Once north was established, the required bearing was set with a needle on a 360° dial. Assisted by the stars, the Sun Compass could also be used at night

and in the final exercise, the brigade conducted a night march that culminated in a dawn attack. The C-in-C, Ayub Khan and the chief of general staff, Major General Mian Hayauddin witnessed the move and complimented the brigade on its direction keeping at night.²² The jargon of the Armoured Corps referred to these nightlong tactical moves as 'stealing a night march'.²³

Following Exercise SLEDGE HAMMER, in 1954 '... it was decided to hold manoeuvres in which the major portion of the army which could easily be taken off its duties would take part'.²⁴ That year, Pakistan had signed a military assistance agreement with the US and joined the South East Asian Treaty Organization. Consequently, these manoeuvres not only had political undertones, they demonstrated to Pakistan's allies the obsolescence of much of its equipment and the pressing need to replace it with the modern and superior American hardware that would match the excellent manpower of the Pakistan Armed Forces. To achieve this objective, a bevy of foreign guests were invited to witness the exercise including General McCaulif, Commander of the US Forces in Europe, Field Marshal Sir John Harding, the British Chief of the Imperial General Staff and senior officers from Turkey and Australia. Elaborate arrangements were made for the foreign guests at a VIP camp established at Kallar Kahar in the Salt Range.

The exercise named 'NOVEMBER HANDICAP' was conducted with 50,000 troops and claimed to be the biggest exercise staged in this part of the sub-continent until then.²⁵ It was set and run by the TAS, now headed by Major General Greaves and embraced all the operations of war. It extended over three weeks and was held in the area of Rawalpindi, Chakwal, Talagang, Jhelum, and Gujrat, which contained varied types of terrain, including plains, broken country, and hills.²⁶ The North Force consisted of I Corps under Lieutenant General Azam and the 3rd Armoured Brigade commanded by Brigadier Sarfraz. The armoured brigade had Probyn's Horse commanded by Gul Hassan, the Guides — less a squadron — commanded by Pir Abdullah Shah, 19th Lancers commanded by Hazur Ahmed Khan MC, and the 9th Frontier Force. While the two other tank regiments were equipped with the recently acquired Sherman M4A1E9, the Guides had recently been issued the M36B2s which were primarily designed for an anti-tank role. However, during exercises and in both the subsequent wars, the army employed them offensively. On the opposing side defending the Salt Range, was South Force commanded by Brigadier Habibullah and it was his test exercise for promotion. South Force consisted of 7th Division and a reinforced tank regiment commanded by Muhammad Nawaz and consisting of 13th Lancers and a squadron of the Guides.²⁷



13th Lancers on its yearly pilgrimage of exercises in the area of Chakwal and Fatehjang in 1956.

NOVEMBER HANDICAP is remembered as 'the battle of hooks', with the fractured terrain of the Potohar Plateau and the Salt Range providing ample opportunities for mobile columns to move undetected.²⁸ Many of the soldiers belonged to this area and guided by their first-hand knowledge of the terrain, it was possible for the armoured brigade to conceal its moves and hook past the defenders. The final hook was through a western portion of the Salt Range and after a long and difficult move that exploited the passage provided by the Kahan Nallah, the M36B2s of the brigade appeared near Jhelum at daybreak within the gun areas of the South Force.²⁹ Since it was a relatively light tank and agile, it could be driven at impressive speeds and made quite a spectacle charging at an enemy gun area.³⁰ Simultaneously, 19th Lancers headed for the bridge over the River Jhelum and Samiuddin's troop led the crossing over the 1.5 km long road/rail bridge. Sami was an inexperienced troop leader had not been instructed to keep the tanks well apart when crossing the steel bridge. Consequently as his troop approached the centre of the bridge, Sami was alarmed to feel it swayed with the weight of the tanks.³¹

The Corps commander was a strong proponent of constantly advancing:

[His] enthusiasm infected most of his subordinate commanders. A tank regiment commander, during a debriefing, heartily swore at the enemy and then quipped, 'He looked for us at Chakowal [Chakwal] he looked for us at Doodial [Dudial] and found F All'. There was much laughter all round and chants of 'A bloody good fellow, a bloody good show'.³²

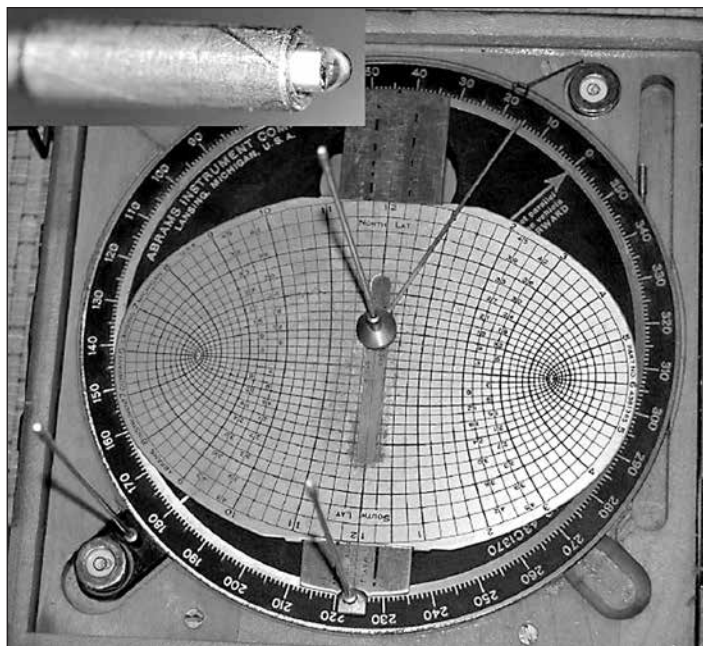
While the quip is not credited to a specific regiment commander, the style and language bears resemblance to that of Gul Hassan who was commanding Probyn's Horse. Apparently, the exercise was not a great success for I Corps as it would have wished and 'the bloody enemy' proved too smart for the home forces.³³ In the post-exercise report, the TAS praised the operations of the opposing armoured regiment commanded by Muhammad Nawaz who incidentally was a good friend of Gul Hassan: 'The work done by 13th Lancers on South Force side in covering the advance to the Ghambir and later withdrawal to Tarki was consistently good'.³⁴

Mohammad Nawaz very effectively employed the recce troop of the regiment as an economy of force unit to cover a wide front while advancing, to find areas lightly defended or not defended and while withdrawing to inform about the strength and direction of threats. The timely information enabled him to effectively neutralise the much larger armoured elements of the North Force.³⁵

In spite of the set-backs encountered by I Corps, the army considered NOVEMBER HANDICAP a great success and in his closing remarks at the post-mortem conference, the C-in-C, Gen Ayub Khan stated: 'This is the first time when I can confidently say that our army is capable of holding its own against any foe'.³⁶ The Army Also Concluded That 'The High Standard Displayed On Exercise NOVEMBER HANDICAP proved that the training methods and tactical doctrine were sound'.³⁷ However, it seems that the C-in-C also had a more pragmatic view of the manner in which the armour should be employed. The following year, his directive for the collective training stated:

During this period I do not wish armour to be used for independent or semi-independent mobile tasks such as flank 'hooks', deep penetration tasks, and pursuits. While such operations can be important and even decisive if used in appropriate circumstances, the opportunity for them has to be created by hard fighting of a less spectacular nature. Exercises 'SLEDGE HAMMER' & 'NOVEMBER HANDICAP' provided adequate practice in the former type of operation, but further training is still required in the latter. It is on the detailed planning and execution of operations involving the close cooperation of infantry, artillery and armour in deliberate defence and attack that I wish you mainly to concentrate.³⁸

A year after NOVEMBER HANDICAP, General Ayub established an Army Planning Board with Brigadier Agha Muhammad Yahya Khan as the Chairman with the mandate of '...moulding the army into an organization capable of meeting the nation's demands'.³⁹ Within two and a half years, the board prepared seven wide-ranging studies and the commander-in-chief was 'simply astounded with its quality and the enormity of the work put in'.⁴⁰ While the planning



The Abrams Sun Compass in its carrying case with the steel pins installed. Inset on the top left is the glass-tipped gnomon.

board studied and recommended ways to modernise the army there were other committees/boards that considered organizational aspects in detail. Major General Habibullah Khan commanding 7th Division had been assigned an important study and the concept was tested in a commander-in-chief's exercise named 'Swan Song'. It was conducted for 7th Division in March 1956, with the purpose of testing an experimental organization and establishment for an infantry division with full-scale logistic support 'to simulate nearly as possible the conditions which would obtain in war'.⁴¹

That same year, 7th Division was part of another big two-sided exercise named AGILITY in which the role of the 100th Armoured Brigade was to simulate an enemy armoured thrust.⁴² Therefore, apart from further evaluating the proposed changes to the infantry division, AGILITY also tested the newly acquired mobility and firepower of the Armoured Corps after the inflow of the lend-lease equipment from the US.⁴³ 7th Division was in defence in the Jhelum-Chenab Corridor and was supported by a regiment of M36B2s. Utilising the entire engineer resources of the army (limited as they were), the armoured brigade conducted a river crossing operation of the Chenab in the area of Khanki Headworks, southwest of Wazirabad. Unfortunately, the crossing was a fiasco since many tanks got stuck, and a major recovery operation had to be conducted after the exercise.⁴⁴ This may have been embarrassing for the army as not only Iskander Mirza, the newly appointed President of Pakistan, but also a large number of senior foreign dignitaries witnessed the exercise. They were accommodated in a VIP camp at Khanki and the exercise was prominently covered in the national press. At its conclusion, Major General Habibullah made some significant and far-reaching recommendations.⁴⁵ His view was that an infantry division did not require a regiment of 56 M36B2s in the anti-tank role and should be replaced by 106mm RRs.⁴⁶ This recommendation ultimately gave birth to the Reconnaissance and Support Battalions. However, he also recommended that the infantry division needed the power to counter-attack, and required a medium tank regiment, preferably of 36 tanks. From this recommendation was born the armoured regiment, which became integral to the infantry division.⁴⁷

These large exercises like NOVEMBER HANDICAP and AGILITY not only provided an excellent platform to the Army for public

relations both domestically and internationally, they had immense training value. However, some analysts were of the opinion that they gave the planners and participants a sense of exaggerated superiority which years later, during the 1965 War, was to cost the military and the nation so much.⁴⁸

The US Influence and a New Found Doctrine

Initially, not only the Armoured Corps but also the entire army was guided by the tactical doctrine of the British Army. Even for clarifications on the use of tactical terminology, the Army consulted the British Army Staff College, Camberley. However, from the mid-1950s onwards, the contact with the American armed forces on a larger scale provided the catalyst for fresh thinking. A few officers had been attending courses in the US since 1952 but under the MAP, there was greater interaction with the US Army.⁴⁹ Not only did the US send training teams to Pakistan, it also arranged courses and tours in the US for a large number of Pakistani officers to enable them to study American techniques and for familiarisation with American equipment.⁵⁰ The courses for the armour officers were conducted at the US Army Armor School at Fort Knox, Kentucky. Captains and majors attended basic tactical and technical courses while senior majors and lieutenant colonels attended the US Armor Battalion Commanders Associate Course for a duration of six months. This course was practical, tough, and demanding, with well-balanced training on Patton tanks over different types of terrain. Students were trained in the handling of armoured brigades and battalion groups, as well as operations in a nuclear environment. The officers performed well for obvious reasons. Wajahat Hussain who attended this course recalls that 'our officers with good English and sound professional background were as good and as proficient as the Americans and stood out better than other foreign students'.⁵¹ S.C.R. Daniels also attended the battalion commander's course and his first presentation to the class of 70 students was so well prepared and delivered, that he received a standing ovation.

As the professional interaction with the Americans increased:

... this broad-based contact with the US was bound to have a decisive influence on the ideas of the officer corps. They soon made their impact on the thinking of Pakistani commanders and staff. In the reorganization of the army, American ideas influenced the planners in a number of ways...The impact of new weapons and equipment, combined with American concepts of military thought has had an influence on the army's tactics.⁵²

Before long, the American influence was visible at all levels. While posted on the staff of 6th Armoured Division in 1974, the author saw a 'top secret' letter from the C-in-C, addressed to all formation commanders regarding officers returning from courses in the US. The C-in-C advised the commanders to caution officers that not all the ideas they had acquired in the US were relevant to the role or resources of the Pakistan Army. At the lower end of the spectrum British terms were replaced by American e.g. the Pakistan Army now referred to the 'Tables of Organization and Equipment' (TO&E) instead of the British term of 'War Establishment'. The time to attack was now H (Hotel) Hour instead of Zero Hour. Troops moved into 'assembly areas' instead of 'assembly positions'. 'Speculative fire' – and 'prophylactic fire' – was directed against possible enemy locations. The stations on the wireless net were identified by call signs instead of code signs. Supplies were now carried in echelons instead of transport. Vehicles were now recovered by a Wrecker instead of Breakdown Lorry. Terms related to administration also came under US influence e.g. Absent

Without Leave (AWOL).⁵³ At the upper end of the spectrum, the US influenced the employment doctrine of the Pakistan Army and there was an emphasis on warfare under an atomic threat.⁵⁴ GHQ reproduced a number of publications by the UK War Office on the subject and in 1955, a General Training Directive defined a policy, on how formations and the schools of instruction would train in response to this emerging threat.⁵⁵ As a result, formations and units in the armoured division took the subject of warfare under an atomic threat seriously. By 1957, the term 'atomic' was replaced by 'nuclear'.

A newsletter of 13th Lancers records that: 'The change to the new strategic and tactical doctrines in the nuclear age was explained by Brigadier Sahabzada Yaqoob Khan in some of his thought provoking lectures delivered in 1957 on Future Warfare.'⁵⁶ Within the space of one year, 7th Frontier Force Regiment, which in 1959 was part of 3rd Armoured Brigade at Kharian, held three indoor exercises/study periods on the subject. The topics discussed included an armoured brigade in defence under an atomic threat, and the use of nuclear bombs in an advance and encounter battle. In addition, the battalion conducted a Nuclear Study Week.⁵⁷ Even as early as 1954, the Journal of the Pakistan Armoured Corps carried an article on tanks in atomic warfare.⁵⁸ Coupled with the thinking on nuclear warfare was the concept of Mobile Defence that was based on strongpoints held primarily by infantry, and strong armoured force for striking at the enemy. In an article published in the 1958 edition of *The Sabre and Lance*, Anthony Lumb who had attended the Advanced Armor Course in the USA wrote:

There is no doubt that the armoured division is ideally suited for the mobile defence and the mobile defence is ideally suited for the armoured division. This type of defence favours the defenders to the maximum in that it provides protection from atomic attack through dispersion.⁵⁹

In the 1963 edition of *The Sabre and Lance*, Mian Muhammad Afzaal also covered Mobile Defence in an article on tactical communication. In spite of the attractiveness of this concept and theoretical discussions in articles and sand model exercises, it was never seriously considered



General McCaulif, US Army, at NOVEMBER HANDICAP. On the right is Miangul Aurangzeb of the Guides.



General Ayub Khan driving FM John Hardin, the British CIGS during NOVEMBER HANDICAP. In the rear are General McCaulif, Commander US Forces Europe, and Brigadier Habibullah.

as an option or practiced in the field. Ironically, the nature of the battle that 6th Armoured Division fought around Chawinda in the 1965 War had all the hallmarks of a mobile defence.⁶⁰

Six years after NOVEMBER HANDICAP in which the Tank Destroyers and Shermans of 3rd Armoured Brigade participated in a battle of hooks, the Armoured Corps was poised to undertake a very different type of exercise. In these six years, the Corps had gone through a major expansion as well as changes in equipment and organization, and the Pakistan Army was keen to test 'the operational capacity and employment of our newly raised 1st Armoured Division.'⁶¹ Nicknamed TEZGAM, the exercise was spread over two months in the summer of May/June 1960 when temperatures were a sizzling 47° Centigrade.⁶² The advantage of conducting field manoeuvres in the months of May to June was that the wheat had been harvested, and summer crops are not yet sown. The Jhelum-Chenab Corridor was selected for the exercise '...as the terrain there was somewhat similar to the plains of Punjab where it (the armoured division) was most likely to be employed in war. The security aspect was another factor which [it was] thought might be jeopardised, if it was laid on immediately north



General Ayub Khan receiving President Iskander Mirza at Khanki Headworks, during Exercise AGILITY.

or south of the Ravi.⁶³ TEZGAM commenced from the area of Chund Barwana north of Jhang, and the advance of 150 km progressed in an arc over Sargodha that ended at Head Faqirian near Mona Depot.⁶⁴ TEZGAM was an ambitious undertaking as no exercise conducted by the Pakistan Army since then has been in a similar spatial dimension.

According to the C-in-C, General Musa, the aim of the exercise was to determine the effectiveness of the command and control set-up of the division, its mobility, flexibility, obstacle-crossing capabilities, working of its administrative echelon and the extent to which it needed augmentation.⁶⁵ Within the scope established by the general headquarters, the armoured division set a threefold aim for the exercise: to train in breakout and pursuit operations, to exercise its command and control, and to test its organization.⁶⁶ The exercise was conducted in two phases with TEZGAM-I run as a large-scale signal exercise and TEZGAM-II conducted with troops. In preparation for TEZGAM, the armoured brigades were put through their paces. 5th Armoured Brigade conducted an exercise named Khyber Mail, (the name of another famous train service) which was also meant to train the troops in the operations of breakout and pursuit within the framework of an armoured division.⁶⁷ The term 'pursuit' was reminiscent of the operations in the North African desert during the Second World War. Whichever opponent (either the Afrika Korps or the Eight Army) achieved a breakthrough, it pursued the adversary as it withdrew 200 to 300 km to the next line of defence. Like advance, attack, and defence, pursuit was a major operation of war and the British India Army assigned it to the armoured division as one of its roles in the military training pamphlet *Characteristics, Roles, and Handling of Armoured Division 1941*.⁶⁸

Wajahat Hussain, the brigade major of el Effendi in the 3rd Armoured Brigade recalls that the exercise:

...was a tough test of command and control, cross country movements, communications and equipment comprising all officers and men. We were put through gruelling phases of day and night operations, covering long distances including crossing of major canals and rivers in the process, testing senior commanders and their staff. We worked day and night in a difficult environment, different terrain and rough weather conditions i.e. in dust, and

slush, pushing the tanks and soft vehicles to an extreme level of stress. Undoubtedly it was useful, we came out wiser, tougher and better equipped for the future.⁶⁹

Opposing the armoured division was the 100th Armoured Brigades commanded by Gul Hassan in the style of a German Panzer leader from a Dodge truck fitted with wireless sets.⁷⁰ He had less flattering comments on the exercise:

The manoeuvres began on a note of disaster. The most powerful brigade of this formation was launched into a well-known duck-shooting marsh near Sargodha and never regained its balance. The

mistake was fundamental – ample time had been permitted for reconnaissance of the ground, but it transpired that no one took advantage of the facility offered. Ironically, the bog was marked on our military maps before the start of the exercise!⁷¹

Many tanks got stuck near Dharema, 12 km northwest of Sargodha where the axis of advance crossed an old water channel of the river. However, in those years due to the extensive canal irrigation, the water table was generally very high. In most places, it was not more than four to five feet below the surface, and commanders and crews found it difficult to navigate their tanks without getting stuck.⁷² The sight of the bogged down tanks was a cause for despair. Musa saw it for himself 'and gave hell to his commanders'.⁷³ Within the Armoured Corps, the feeling was that the exercise had been deliberately set in this area to discredit the Corps. With more than 130km to go, there was an urgency to meet the timelines set for the advance. Hameed Gul was a junior troop leader in 19th Lancers during the exercise and his recollections are summed up in two words: speed up. Whenever the advancing troops encountered an enemy and radioed a contact report, they were instructed to speed up.⁷⁴ On the opposing side, 15th Lancers — the recce regiment — screened the 100th Armoured Brigade. Each time it occupied a position, it was instructed to break contact and withdraw until the next line 30 to 40km to the rear.⁷⁵ This desire to keep the division rolling may well have been a consequence of the unstated purpose of the exercise, which was to address concerns that the Pattons were too heavy to operate in the irrigated river corridors of the Punjab. One of the positive fallouts of TEZGAM was that the army started compiling terrain studies of the operational areas and 'tank-going' maps.⁷⁶

Part of the problem with TEZGAM lay in the management of the exercise. The TAS from the British Army which had planned and conducted all the previous exercises had been disbanded. In 1956 the head of TAS was bold enough to interfere with the US Military Assistance Program and the reorganization of the Army. 'Even a large hearted FM Ayub felt crowded. The TAS was packed up'.⁷⁷ Its tasks were shifted to the MT Directorate in GHQ whose 'time was taken up with the introduction of the New Concept of Defence and other innovations'.⁷⁸ To manage an exercise at a scale which was large in terms

of both troops and distance, was probably beyond the capacity of the MT Directorate. To control an armoured force of three brigades — one of them a heavy armoured brigade — over a distance of 190km may also have been beyond the capability of Sarfraz Khan who had taken over the command of 1st Armoured Division from Haq Nawaz. The C-in-C, General Musa was generally dissatisfied with the way the tanks had been handled and according to Major General Jehanzeb, 'the 1st Armoured Division exercise proved the inadequacy of the higher commanders handling of armour operations.'⁷⁹ However, the officers in general may have been unable to comprehend the dynamics of armour operations at this scale. While a number of sand model discussions had preceded TEZGAM, they never moved beyond the level of sub-units with a great deal of emphasis on Standard Operating Procedures and drills.⁸⁰ In spite of all these shortcomings, General Headquarters



Pakistani officers at Fort Knox. The officer in the rear is Muhammad Aziz, 11th Cavalry.

considered the exercise a success and the report prepared by the director of the exercise Major General M.G. Jilani, was given wide publicity.⁸¹ TEZGAM was also an exercise in public relations and was projected as evidence that the army was professionally well trained in spite of its involvement in martial law. Thirty years later, in the winter of 1989–90, the army conducted Exercise ZARB-I-MOMIN with a similar purpose.

Just as the merits of the New Concept of Defence were keenly deliberated within the infantry, TEZGAM generated a strong debate within the Armoured Corps and within the Armoured Division.

Lessons from Exercise TEZGAM were the favourite menu at every discussion table. Some pleaded for the breakup of the Armoured Division into independent brigades. They thought the Division was too heavy and country's infrastructure too inadequate to support operational and tactical moves within the battlefield. Others wanted all available armour to be organized into corps on the style of panzer corps of the German Army.⁸²

Even though the purpose of the exercise was not to determine the operational objectives for the Division, it obviously excited the Corps in what the Division could achieve in a war.

They dreamed of Pakistan Army equivalents of Group Von Kleist and General Guderian moving fast and establishing a line from bend of Jamuna to the slopes of Arvalli. Their argument was that in view of the Pakistan's strategic axiom stating that defence of East Pakistan lay in West Pakistan, such deep incursions were essential for political bargaining after the war. Practical soldiers considered the capture of the line Kathua-Jandiala Guru and Beas-Sutlej confluence was good enough for the necessary bargaining. Whatever the ground objectives, such offensives could only be undertaken by tank units organized in

divisions and corps. *Klotzen, nicht kleckern*.⁸³ Dissipation of armour into packets would reduce the war to static battles of trenches and duels of artillery.⁸⁴

Following TEZGAM, Sahabzada Yaqub had taken over the command of 1st Armoured Division but he '...did not commit himself to any school although his preferences were clear to those who listened to him with care'.⁸⁵

Well before the commencement of the first US Military Assistance Program, the Pakistan Army was enamoured of deep manoeuvre and the offensive operations of the German Army during the Second World War. Lieutenant General Azam who commanded I Corps during NOVEMBER HANDICAP wanted his troops to be always 'on the move' regardless of the constraints of logistics. During the exercise, '...he carried with him a copy of the newly published Rommel's Papers and was full of it'.⁸⁶ This thinking gained momentum after the injection of the latest US tanks and the raising of the Armoured Division, and was reflected in the setting and conduct of the exercises. In 1958, 3rd Armoured Brigade conducted a signal exercise nicknamed SLEDGE HAMMER whose aim was 'to practice units in the breakout phase of an armoured division involving a deep advance into enemy territory to capture an objective on his Line of Communication'.⁸⁷ Subsequently the Armoured Division conducted its own signal exercise that focussed on the 'planning and execution of armoured actions involving deep penetration into the enemy's rear against light opposition'.⁸⁸ Even the topics of the lectures on military history delivered in the division such as, the German offensive in the west, 1940 and Rommel's campaign from Ghazala to Tobruk, were reflective of the operational and tactical thought during this period. This emphasis on deep manoeuvre was in

some cases practiced right down to the level of armoured regiments. In 1962, the newly raised 25th Cavalry while exercising with 15th Division conducted a night march of 40km that originated from Pasrur, crossed the Deg Nadi and culminated in a dawn attack on enemy gun positions behind Zafarwal.⁸⁹ It was a long distance for one armoured regiment to penetrate without the support of self-propelled artillery or mechanized infantry.

Restructuring and the New Concept of Defence

General Ayub Khan's initial years as C-in-C were largely taken up with the restructuring of the Pakistan Army. 106th Brigade was designated as the Trial Brigade and 10th Division as the Trial Division. The best officers of the Army were posted to command these formations. The brigades were commanded by officers like Gul Mawaz and Akhter Hussain Malik, and the divisions by Azam Khan, Syed Ghawas, and Abdul Hamid. Many combinations were tested related to the infantry battalions, recce and fire support for the infantry division, as well as the role and structure of other organizations. The system of logistic support was also not ignored. In March 1956, the army conducted a C-in-C's exercise named SWAN SONG for 7th Division commanded by Major General Habibullah. Its aim was to evaluate an experimental organization for a division and its suitability for war and was set in the area of Hassan Abdal – Fatehjang with Havelian as the logistic base. The division was exercised in establishing a defence followed by an advance to contact with full-scale logistic support 'to simulate nearly as possible the conditions which would obtain in war'.⁹⁰ The army was going through a fundamental shift in thought and organization from a British to an American pattern. The division headquarters was restructured; the army-level artillery brigades were disbanded and their artillery regiments were made integral to the divisions, the supporting troops of the infantry brigades were grouped into

battalions under the division, and much else. It was a momentous period for the Army, which owes its present structure to the founding fathers.

While the army was grappling with the restructuring, and the experiences and lessons from TEZGAM were still under discussion, the debate on the New Concept of Defence was gaining momentum. The agreement with the Americans restricted the manpower ceiling and equipment and ways had to be explored to make better use of the resources within these limitations.⁹¹ Since 1958, the Army was formulating a doctrine, which was aimed at transforming it into an economical, light and effective force that could ensure a war of short duration. For testing the New Concept it held a number of exercises, one of the largest being PEGASUS, which was conducted in 1959 on the axes of Lahore-Shiekhupura.⁹² Conceptually, the new doctrine envisaged holding ground with firepower instead of manpower and creating strong reserves at the level of the division and army both for counterattacks and offensive operations. To execute this concept, the infantry underwent a major change in organization and equipment. Some components of the new concept were also tested and proved during Exercise TEZGAM e.g. a support battalion was formed on trial. The recoilless rifles (RRs) of the two other armoured infantry battalions in 1st Armoured Division were temporarily transferred to the 7th Frontier Force Regiment, which now had a total of 54 RRs. This trial organization was subsequently formalised and named as the recce and support battalion. A major change that occurred after TEZGAM was a reduction in the size of the armoured regiments. In the aftermath of the exercise, an umpire commented: 'The armoured division had sunk under its own weight'.⁹³ The comment was directed not only at the heavy Patton tanks, but also at the large number of tanks and vehicles in the Armoured Division, which made it sluggish. 'The division was heavy-footed. It had a long and vulnerable tail of

non-armoured administrative vehicles, largely because of the size of its armoured regiments. The tail almost wagged the armoured spearhead'.⁹⁴ Consequently, the armoured regiments were reduced to 44 medium tanks and the light tanks in the reconnaissance troop were replaced with six 106mm RRs and six machineguns mounted on jeeps. The major reduction in the number of tanks fitted in with the New Concept of Defence. It enabled the raising and equipping of more armoured regiments and they were assigned to the infantry divisions that would be defending the main battle zones.⁹⁵

Not everyone agreed with the New Concept and two very strong and opposing schools of thought emerged within the army. In this charged and fractious atmosphere, General Headquarters conducted an exercise codenamed MILESTONE to evaluate the



Officers attending a briefing during Exercise TEZGAM.

concept. It was conducted in the area of Sheikhpura in November 1962 by 10th Division, which was reorganized for the exercise. The division was commanded by Abdul Hameed Khan who as DMT had been tasked to formulate the New Concept.

Sahabzada Yaqub, who was commanding the 1st Armoured Division, was the chief umpire. His position was not a happy one. He was far better informed on the military doctrines of the Germans as well as the US military but during the exercise, he intervened only to correct the facts but never the perceptions. Reportedly, at the end of the exercise the concepts stood rejected through consensus, an outcome that Yaqub Khan privately approved. However, it seems that the report by the chief umpire on MILESTONE was not accorded that wide publicity that had been given to the report compiled by Major General M.G. Jilani on TEZGAM.⁹⁶

Within the Armoured Corps, 'many objected to an armoured regiment being an integral part of the infantry division, as in their view this was against the principle of using armour in mass which, according to them, was the only way that armour should be employed'.⁹⁷ The Armoured Corps was also uncomfortable with the idea of luring in the enemy and subsequently destroying it through an attack on the flank with a 'striking force [that] consisted of an armoured regiment, two infantry battalions, a field regiment and an engineer company. It could be split into two, to imitate the Cannae manoeuvre. Its mission was to destroy enemy divisional artillery at the split second when his attacking echelons had penetrated halfway through the Killing Zone'.⁹⁸ It seems ironic that the Armoured Corps did not feel at ease with this concept considering the emphasis in field exercises on conducting hooks to attack the enemy gun positions in depth.

While the concept did not stand the test of the 1965 War, it goes to the credit of those who were associated with its framing, that the major organizational changes largely stand unaltered. Except for the recce and support battalions, which have been replaced by ATGM battalions, the armoured regiments continue to retain 44 tanks, a tank regiment is still grouped with the infantry division, the artillery regiments still have their 18 guns, the service support units are still grouped as battalions under the division headquarters, which continue to have the same system of staff. It says a lot for the early generation of military planners of the Pakistan Army.

Post-1965

The Pakistan Army derived some significant lessons from the 1965 War, and it was also a growing up time for the Armoured Corps. Shamim Yasin Manto, who commanded a squadron of the Guides through the thick of fighting during the Battle of Chawinda, reflected that:

There was a great deal of keenness shown in training prior to 1965, but it was greatly influenced by the experience of the Armoured Corps in Burma and North Africa. Working on regimental frequency, the hallmark of an exercise with troops was a wide manoeuvre. For this concept, the standard of training was high. However, when we went to war in 1965 the situation confronted by troops/squadron/regiment was quite different. The terrain of Punjab with clumps, crops, and boggy area did not allow clear fields of view/fire for manoeuvres. Squadrons were required to operate on their own. Regimental frequency had to be abandoned in a hurry. Training acquired prior to the war was not much use. This happens to all armies, they usually train for the previous war.⁹⁹

As a result of the experience of the 1965 War, the Corps came to accept that neither the terrain nor the density of forces permitted



Recovering a M47 tank during TEZGAM, 1960.



Armoured Command Vehicle used by 1st Armoured Division during TEZGAM (for a colour profile of this vehicle, see Volume 1).



The 106mm recoilless rifle was the backbone of the anti-tank defence of the Pakistan Army in the 1965 and 1971 Wars.

the type of wide manoeuvres that had been the hallmark of previous exercises. Gone were the protagonists who advocated deep objectives and a more realistic school of thought emerged. However, it seems that the Armoured Corps was still reluctant to entirely discard the doctrine it had inherited at Independence. The General Staff Publication (GSP) issued by the army in 1967, *Armoured Division in Battle*, still contained a section dealing with pursuit as an operation of war. Sahabzada Yaqub, who after the 1965 War had been posted to the General Headquarters, compiled the GSP and it was issued under his signature. It was not anything like a large well-illustrated American field manual of 200-300 pages, nor was it written for a student of the



Colonel Pir Abdullah Shah, CO the Guides, and his squadron commanders, during Exercise SLEDGE HAMMER in 1953.



Senior commanders at Exercise TEZGAM 1960, from left to right: Lt Col Effendi, Brig Ghaziuddin Hyder, Brig R.D. Shamim, Brig Tikka Khan, Brig Hissam el Effendi, Lt Gen Bakhtiar Rana MC, Lt Col Azeem, Maj Gen Sarfraz Khan MC, Brig Muhammad Shariff, Brig Riaz ul Karim MC.

Staff College. It was of a paperback size with just over a hundred pages and compiled by an armour general as a guide for the commander of an armoured division with two pages devoted to 'The Commander's Perspective and Outlook'. With his grasp of the English language as well as armour operations, some of the statements are extraordinary in content and composition e.g. the publication states that:

During the advance, the entire process of movement (extension as well as contraction) must be governed by an impulse on the part of all elements of the Division to forge ahead in pursuance of the divisional mission.¹⁰⁰

Since Sahabzada had also been schooled in the operational level of war, it was also the first publication of the Pakistan Army to contain operational terms like centre of gravity, strategic balance, liberty of action, friction, paralysis, etc.

Being the premier armoured formation of the army, 1st Armoured Division set the trend and pace of training. When Gul Hassan took command of the division after the 1965 War, maximum attention

was given to the training of tank commanders and troop leaders.¹⁰¹ Gul Hassan's close hands-on approach to the training at this level may have been influenced by a sand-table exercise he attended in the early stages of his career that was conducted by his brigade commander, K.M. Idris. He recollected that:

It involved study of troop (basic armour sub-unit) and squadron drills in various situations. It was one of the most instructive exercises, I have ever attended. I was at the same time horrified that those who could, in theory, handle panzer army groups with greater efficiency than Colonel-General Guderian, were totally at sea when asked to move three tanks from A to B, in practice.¹⁰²

This was not his first experience in training an armoured formation. As one of the early commanders of 100th Armoured Brigade, he was instrumental in changing the mind-set of 6th Lancers and 11th Cavalry from *recce* to armoured operations. Now in command of the armoured division, with his hands-on style, he personally drafted the training notes and then led from the front.¹⁰³

While there were many who admired Gul Hassan, not

everyone agreed with his method of training. Commenting on the training following the 1965 War, Manto makes an oblique reference to the practice in the 1st Armoured Division but was probably equally applicable to 6th Armoured Division.

In the Armoured Corps the lessons of the 1965 War were confined to improving tank troop and squadron training under the direct supervision of the GOCs. The manner of training destroyed the initiative of troop leaders and squadron commanders and commanding officers. Brigade commanders and GOCs were doing the job of squadron commanders and commanding officers. Unfortunately, no one realised that this was not possible in war since a brigade commander and GOC had other responsibilities. Training of brigade/division commanders was not considered necessary. They needed it as much as their juniors.¹⁰⁴

Z.A. Khan, who had spent his early days with 13th Lancers training his tank troop and squadron on his own, also had the same opinion:

This independence and trust disappeared later. Even when troops were commanded by officers they were not left alone, so much so

that in armoured divisions and brigades, generals and brigadiers supervised troop training shattering the confidence and the initiative of the junior officers.¹⁰⁵

JCOs and NCOs had a similar opinion. During an exercise debriefing, a Pathan NCO of 22nd Cavalry asked Gul Hassan how he was expected to command a tank if the GOC was sitting on the turret behind him. "*Mein age dusman ko dekhun ya peeche GOC ko dekhun?*" (Do I look ahead towards the enemy or back towards the GOC?)¹⁰⁶ While Z.A. Khan's comments may be valid, the fact is that following the 1965 War, the tank troops had to be retrained because the organization of the squadron had changed from three troops each with four tanks, to four troops each of three tanks. With this change in organization, new tactical drills and techniques needed assimilation.¹⁰⁷ Concurrently officers as troop leaders had replaced JCOs and the relatively large number of YOs in the regiments needed training. The emphasis on training at the level of the tank troop was also replicated in 6th Armoured Division. Before taking over command of this division, to familiarise himself with armour, Eftikhar Khan spent time with 1st Armoured Division in Multan and was briefed by Gul Hassan. In the early stages of his command, he referred to Gul Hassan as his *Guru* (teacher).¹⁰⁸ By the time he left 6th Armoured Division, the units were trained to a high degree of professional competence at the troop level.¹⁰⁹

The reader should not conclude that during this period the armoured divisions only conducted tank and troop training in the field. It is on record that both formations also held large-scale manoeuvres. In 1966, the 1st Armoured Division was out for field training for four months in Sher Shah and Muzaffargarh. At the concluding stages of field-training, it embarked on a major exercise in which the first phase involved an operational move of 100km at night by road and train to the area of Layya. This was followed on the return leg by a full-scale exercise of three days and two nights. In 1967 a similar large-scale exercise was conducted in the area of Lodhran and in 1968 another in the area of Dera Ghazi Kahn/Sakhi Sarwar.¹¹⁰ Mitha took over from Gul Hassan and the contrast could not have been greater. Needless to say, it was not a smooth transfer and the two general officers had differences. Mitha had a very different personality and was not pleased with what he saw during the few days he spent with Gul Hassan as part of his familiarisation with the division. Mitha recollected that: '[I] ...saw a couple of squadron and regimental exercises and I was not impressed. They were conceived with a complete lack of imagination and again resembled demonstrations.'¹¹¹ Mitha was the first general officer to take 1st Armoured Division to its new manoeuvre area in the Cholistan Desert where 'regiments and brigades ran their own exercises and trained their own commands. ... Field firing was conducted from troop to regimental level both day



Gul Hassan and Mitha monitoring an exercise. Standing in front is the Colonel-Staff, Wajahat Hussain.

and night. Finally, the division headquarters ran a division exercise, which went off very well and a lot of lessons were learnt.¹¹² Further north, Eftikhar Khan was replaced by Muhammad Bashir Khan, the first armour officer to command 6th Armoured Division who took up where his predecessor had left off. During his tenure, training at the level of squadron and regiment with special stress on outdoor exercises, became the norm. By 1971, 6th Armoured Division 'had been honed to a superlative standard of excellence, which testified to the dedication and professionalism of both officers'.¹¹³

There was a noticeable change in the doctrine and drills of the Armoured Corps that was reflected both in the nature of operations for which the armour now trained, and by changes in terminology. A very popular phrase inherited by the Army and the Corps was 'economy of force'. During NOVEMBER HANDICAP, Nawaz had been praised for conducting an economy of force operation while screening the defence. This phrase was discarded as was also the term pursuit, which had appeared so pronounced in TEZGAM, as a task for the armoured division. Though it remained in the publication *Armoured Division in Battle, 1967*; it was no longer a subject that merited discussion. The rate of advance that the publication envisaged for an armoured division (100 km in six hours) was also rationalised against the density of opposing forces and the cross-border terrain.¹¹⁴ Prior to 1965, 'every exercise started almost invariably from advance to contact, in imitations of operations in North Africa or Burma during World War II; something quite irrelevant to our situation'.¹¹⁵ After the war, advance to contact was replaced by advance and encounter battle (also referred to as advance in contact). In addition, the Armoured Corps no longer focused only on the breakout but also on the heavy break-in battle and evolved and practiced techniques and drills for breakout by penetration. At the level of tank and troop, terminologies also changed or disappeared altogether. Until the late 1960s and into the 1970s, crews were instructed to carry out speculative fire against locations where enemy tanks and anti-tank weapons were suspected,

but not visible. The aim was to compel an enemy weapon to fire and reveal its position. However, as the calibre of the main guns increased with a corresponding decrease of ammunition in the tank, crews were trained to closely observe the area, identify targets, and only fire for effect. Learning from the fiasco of the operations of the armoured division at Khem Karan, every major exercise related to an offensive, commenced with a very deliberate operation of establishing a bridgehead across an anti-tank ditch or water obstacle followed by the induction of armour by a very meticulously laid out crossing control organization.¹¹⁶ In 1967, the army conducted a major exercise named JEB STUART in which the 1st Armoured Division was inducted into a bridgehead across the River Chenab west of Multan, and after a very deliberate break-out operation, advanced through the desert of Thal towards Layyah.

There was particular emphasis on assaulting across a water obstacle with APCs swimming across the river. During one of the major exercises of II Corps held in Multan around the same period, 24th Cavalry which was the only regiment equipped with T-55s, was brought south from Kharian for fording through the River Chenab. The artillery had performed admirably well during the 1965 War and its role in stemming the advance of the Indian 1st Armoured Division drove home the lesson that concentrated artillery fire was critical to the success of an armoured battle. It also drove home the lesson

that in the absence of artillery observers to direct a shoot, armour and infantry officers must be trained to do the same. In addition, many more officers were now trained as Forward Air Controllers to direct ground support missions by the air force in the forward battle zone. The procedure of withdrawing armour in contact to a leaguer at night for replenishment was discarded. Squadrons now trained for maintaining contact and holding ground by night while simultaneously replenishing tank troops by sending one back at a time for replenishment. The high cruising range of the diesel powered T-59s greatly reduced the frequency of replacement of fuel.

Post-1971: A Combined Arms Force

The Pakistan Army has faced two lean periods. The first was between Independence and the US Military Assistance Program, which was activated in 1956. The second lean period was after the 1971 War. While there was a steady flow of military equipment from China that enabled the army to replace its vintage artillery guns and tanks, none of this equipment could be termed modern. Concurrently the US equipment that had been the backbone of the army during the 1960s was becoming obsolete. Compared to the weapon systems that were being fielded by the modern armies as well as India, the equipment of the Pakistan Army was a generation, and in some cases even more, behind. In spite of these limitations, the Pakistan Army and the Armoured

Corps refined previous concepts and evolved new techniques and drills. Learning from the disaster of the counterattack by 8th Armoured Brigade in the 1971 War, the armoured brigades with the infantry corps were restructured and the technique of their employment was refined. To ensure a higher degree of success in an offensive, the Corps also developed drills and procedures for breakout by penetration.

Close on the heels of the 1971 War came the Arab-Israeli War of 1973. While the tank demonstrated that it was still the 'king of battle', the conflict also reinforced the lesson that without the support of other weapon systems, it was very vulnerable in the war-fighting concept that was emerging. The Pakistan Army and the Armoured Corps absorbed and accepted this fact but lacked the resources to modernise. The situation changed for the better when the Soviet Union occupied Afghanistan in 1979 and Pakistan negotiated a military assistance package with the US. The arms list that was finalised by 1981, included 20 AH-1 Cobra attack helicopters, over 300 M48A5 tanks, 64 M109 155mm self-propelled



APCs of the 7th Frontier Force Regiment swimming across the River Chenab, during a field exercise in 1969.

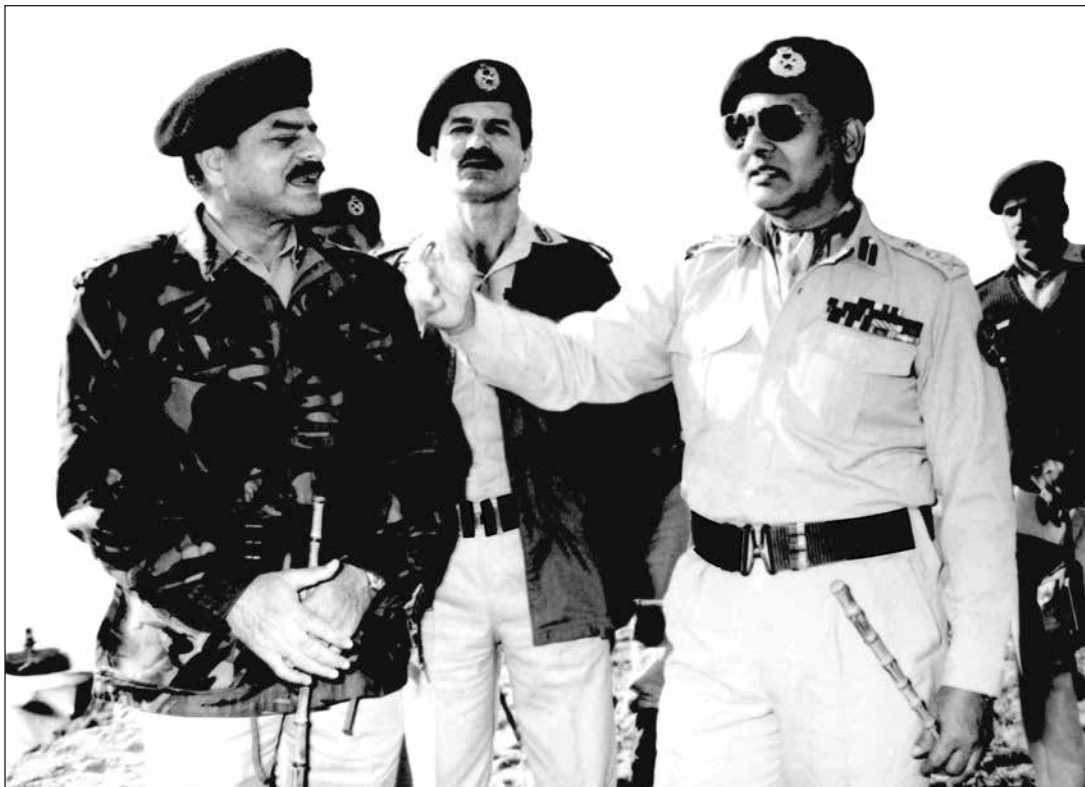


M113s armed with TOW ATGMs seen during live firing exercise.

howitzers, 40 M110 203mm self-propelled howitzers, 75 M198 155mm towed howitzers, and 1,000 TOW anti-tank missile launchers along with a sizable number of missiles. It also included close to 300 M113A2 APCs that had a more powerful diesel engine. This was a welcome addition to the 600 M113A1 APCs that had been supplied during the 1970s and the US now also provided a complete facility to upgrade this version to an A2 configuration. This facility could also manufacture APCs with kits provided by the US and a large number were fabricated in Pakistan including the Talha, which was an indigenous design that incorporated many modern features.

The type of equipment that the army inducted from the US enabled it to develop a new war-fighting concept for mechanized operations. This concept sought to neutralise the Indian armour by saturating the battlefield with anti-tank missiles and heavy artillery fire thus achieving freedom of manoeuvre for its own armoured formations. Even within the manoeuvre elements, there was a strong component of anti-tank missiles including TOW on the Cobra helicopters as well as the M901 Improved TOW Vehicle, which enabled the missile to be deployed on a tracked platform. The army also subsequently modified the M113 as a platform for the TOW launcher, and a new element was born in the army, designated as the ATGM battalions. Gradually the ATGM replaced the long out-dated 106mm recoilless rifles even in the recce troops of the armoured regiments and in the anti-tank troops of the mechanized infantry battalions. This concept was tested during Exercise ZARB-E-MOMIN, which was the largest field exercise held by the army to-date. It was an offensive exercise set in a scenario of the Pakistan Army launching a riposte in response to an Indian offensive, and was a component of the operational doctrine of offensive-defence that had gained acceptance in the 1980s. To test and evaluate an emerging Air-Land concept, a very large-scale exercise by the Pakistan Air Force named HIGH MARK was dovetailed with ZARB-E-MOMIN. The combined exercise also had political overtones and an unwritten aim of the exercise was to demonstrate that in spite of being involved for ten years in running a military government, the armed forces were in excellent fighting trim. Held just two years after the Indian Exercise BRASSTACKS, it revived the confidence of the nation, and the military in its war fighting capability against an Indian threat.

The exercise was conducted in the same area of the Thal desert where SLEDGE HAMMER had been held 45 years earlier, but the scale of forces was far larger. The troops that participated consisted of the army field headquarters, four corps headquarters (including Headquarters I Corps commanded by Lieutenant General Hameed Gul for controlling the exercise), and seven infantry divisions. The armour component included 6th Armoured Division, 3rd Independent Armoured Brigade, and the newly formed 44th Mechanized Infantry



The architects of ZARB-E-MOMIN, from left to right: Lieutenant-General Hameed Gul, Major-General Tanvir Naqvi, and General Aslam Baig.



Alam Jan Mahsud, commanding Foxland forces during Exercise ZARB-E-MOMIN.

Brigade. Also integrated into the exercise was a large portion of the newly formed Army Air Defence Command, combat engineers and combat aviation as well as a brigade of the Special Services Group. The combination of desert and cultivated areas that Thal had developed into enabled the armoured formations to be exercised in a variety of roles including an advance and outflanking manoeuvre by the armoured division through the desert, a covering troop battle by an opposing Mobile Desert Force (MDF), and counterattacks to recapture critical ground. The battle climaxed with the struggle to secure the critical space around Nawan Kot and Mankera with attacks being launched by the armoured division and counterattacks by the

armoured brigade in defence. In this exercise there were some very useful lessons learnt by the Corps. The early success by the armoured division brought about by a manoeuvre that forced the MDF to pull back, could not be capitalised on and the tempo stalled at the critical space due to a resilient defence by the infantry. There was no dearth of mechanized infantry with the armoured division and it could have been concentrated to attack and clear the defences. The MDF was well conceived, but its operations were hampered by a weak articulation of command of a large force that comprised of two armoured regiments, two ATGM battalions, and self-propelled artillery. A foreign military analyst who witnessed ZARB-E-MOMIN considered it to be 'a good

exercise whose main results ... included improvement in armour tactics, better passage of intelligence, enhanced co-operation with the PAF, creation of Air Defence Command, and introduction of higher-level coordination of artillery'.¹¹⁷ However, for the Corps the greatest value of the exercise was its transition from being just the Armoured Corps to Armour, not only integrated with the other components of mechanized forces, but also taking a lead in setting the doctrine for mechanized operations. One result of this was the renaming of the Armoured Corps School as the School of Armour and Mechanized Warfare in 1993.

CHAPTER 4

INDO-PAKISTANI WAR OF 1965

In 1965 the Pakistan Armoured Corps was not only larger and better equipped than its counterpart in India: it was also better organized and operating along shorter frontlines. Apart from sufficient regiments and TDUs to support the infantry divisions, there were also two Strike Forces consisting of a heavy armoured division in Central Punjab, and a light armoured division in Northern Punjab. The weakness lay in the strength of the infantry, which was accentuated by the offensive into Chhamb, and which paucity had a debilitating effect on armour operations. The absence of a corps headquarters in the Lahore-Khem Karan Sector also created serious issues in planning and execution. In the offensive, which was symbolised by the operations of 1st Armoured Division, the performance of the armour was disappointing, although not due to an absence of an offensive spirit. At the higher level, it was related more to errors of conception that led to a hasty employment,

poor point of application, faulty grouping, and an absence of accurate information on the deployment of Indian forces. At a lower level, it was due to a breakdown of drills and procedures under the stress of combat. In a defensive role, the armour showed far greater resilience and determination, and its operations in the Ravi-Chenab Corridor redeemed the honour and pride of the Corps. While the tactical handling in certain incidences could be faulted, the readiness to engage regardless of the consequences, and the bravery of the officers and crews displayed the essence of the cavalry spirit that remains the hallmark of the Pakistan Armoured Corps.¹

Opening Rounds of the 1965 War

The employment of armour in the 1965 War progressed in stages commencing with the first shot being fired in the clash in the Rann



Officers of the HQ, 1st Armoured Division, Pakistan Army, on the eve of the 1965 War. Sitting, from left to right: I A K Lodhi (GSO2/Edn), Nisar Ali Khan (GSO2/Ops), Hashim Ali Khan (GSO1), Muhammad Faruq Khan (Col Staff), Maj Gen Nasir Ahmed Khan (GOC), Yaqub Khan (AQ), Raja Tufail Ahmed (ADOS), Aslam Alam (DQ), and Ayub Yousaf Khan (DAAG). Standing, from left to right: Feroz Alam Khan (GSO2/Int), Raja Mubashar Ahmed (GSO3/Ops), Salim Hussain (SC/Q), Asghar Ali (ATO), Mukhtar Ahmed (ADC), Muhammad Ikram, GSO3 (Int), Muhammad Arif Hussain (DADOS), and M. M. A. Baig, (commander, HQ Sqn)

of Kutch in April 1965. Since the beginning of the year, the Indians had been creeping forward with the intention of occupying the whole of the disputed area.

Tensions erupted in early 1965 with a counterattack of a brigade from the 8th Division that moved from Malir to reoccupy posts that had been seized by the Indians. As additional forces of 8th Division were shifted from Quetta to this sector there was a problem with moving its integral tank regiment: the railway flats for transporting the tanks of 23rd Cavalry were at Lahore and it would have resulted in an unacceptable delay to move them all the way via Sukkur to Quetta and transport the tanks to the Rann back via Sukkur. Consequently, a composite force of the regimental headquarters (RHQ) with a squadron of M24 Chaffees of 12th Cavalry Regiment from 1st Armoured Division at Kharian, and a squadron of 24th Cavalry Regiment equipped with M48s

from Lahore, commanded by Sardar Ali Imam, were initially deployed and concentrated at Rahim-ki-Bazaar. In the first major action on 26 April, they were deployed to recover the Sera Bet Post in cooperation with companies of the 2nd Frontier Force. The Indian position was well prepared and stocked, and protected by eighteen 105mm recoilless rifles, which fired over 300 rounds. The tanks pursued the enemy for a distance before being recalled. The squadron commander's tank was well ahead in overrunning the objective and the brigade commander, Eftikhar Khan, was himself riding on one of the tanks.

There were no further engagements with the Indians, but shortly afterwards there was a false alarm raised by an air observation aircraft, which reported 40 enemy tanks advancing towards Bier Bet. 24th Cavalry with its remaining two squadrons, which by now had also arrived in this sector, was ordered to move on a desert track to Jatri. It took the brand new M48 tanks of regiment only two and half hours to cover 80km.

By the time of the clashes at the Rann of Kutch, the Pakistan Army had been fully mobilised. 6th Armoured Division started moving from Nowshera to its concentration area near Gujranwala on 4 May. The Pakistan Western Railways did a commendable job: the 12 trains carrying the division arrived within only 36 hours. The 1st Armoured Division moved around the same date but since it was far larger in size, it took longer to assemble in its concentration areas in Changa Manga Reserve Forest and Balloki Headworks. Through the month of May, war looked imminent, and there was hectic activity in planning, preparing the equipment, addressing deficiencies and reviewing SOPs. Only three years earlier, the army had participated in the large-scale Exercise TEZGAM, and the lessons were fresh in the minds of the commanders and staff. The General Headquarters (GHQ) had planned offensive contingencies in all three river corridors in which,



Brigadier-General Eftikhar Khan (right), commander 6 Brigade Group, and Sardar Ali Imam, commander, 24th Cavalry (second from left), in the Rann of Kutch area, 1965.

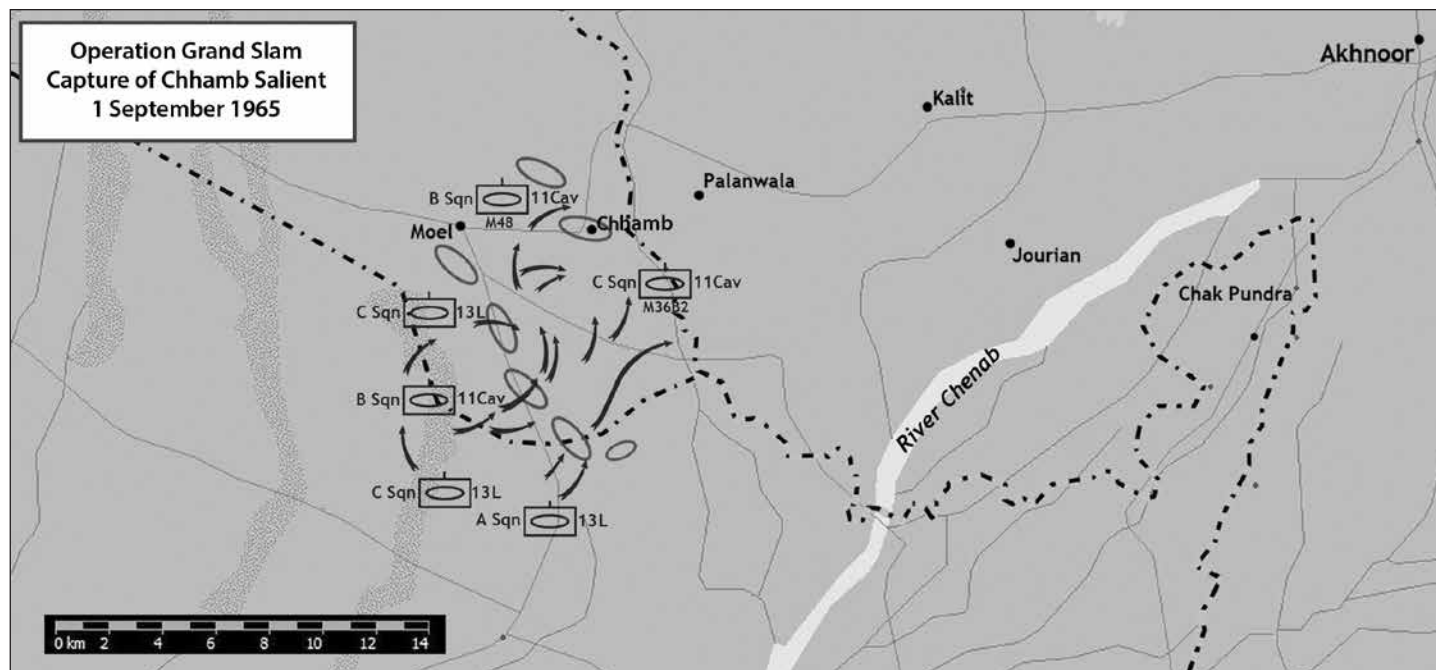
7th Division, the only infantry division in reserve had trained with 1st Armoured Division. Unfortunately, at the last minute the two massive formations were re-deployed to the Chhamb Sector, causing a serious imbalance in the strike force.

Operations Gibraltar and Grand Slam

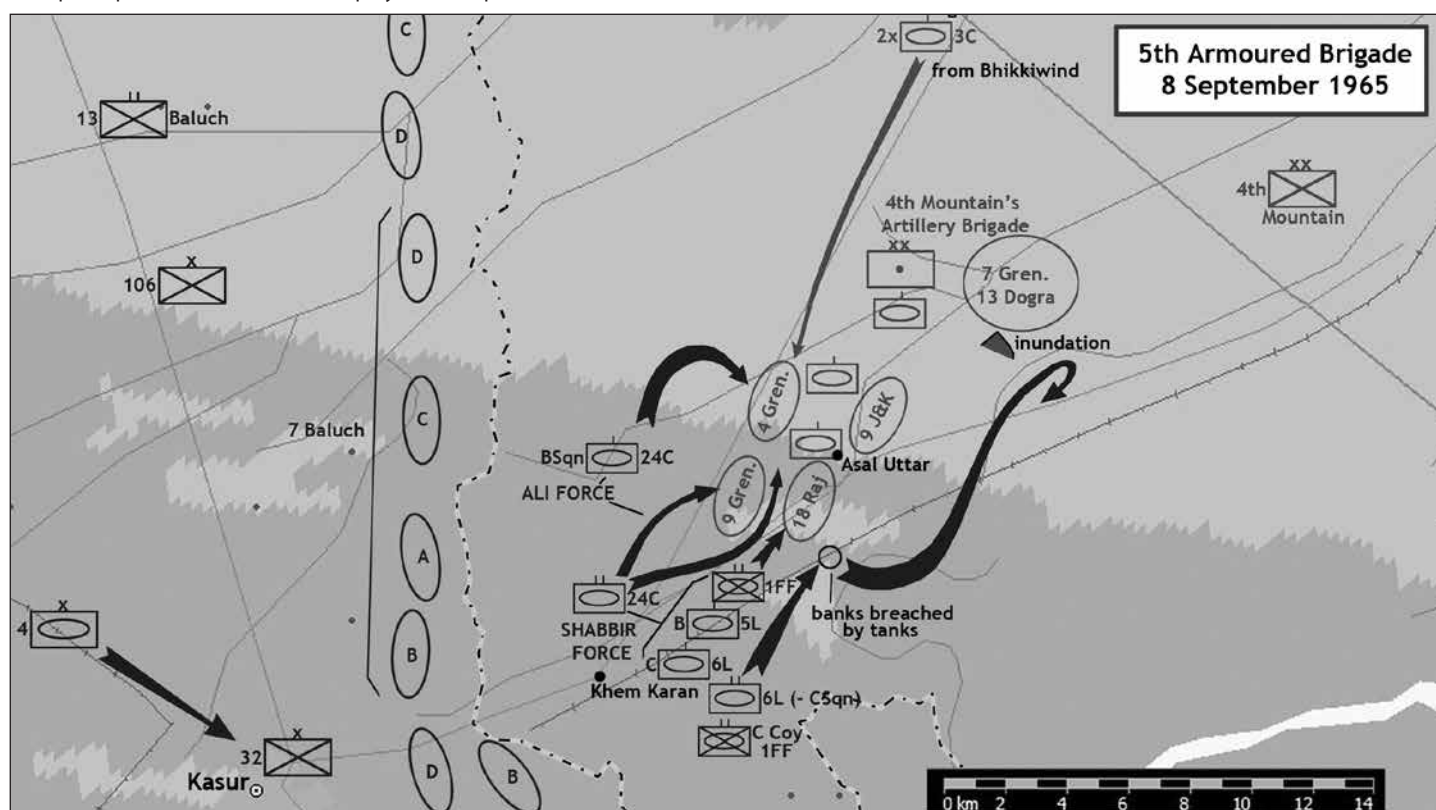
In June 1965, India and Pakistan agreed to a ceasefire and disengagement of forces in the Rann. The Pakistan Army remained deployed in the field, even if gradually slipping back to the peacetime routine. Moreover, unknown to most of the armed forces, the high command was already deeply involved in planning Operation Gibraltar: an offensive into Kashmir under the control of 12th Division.

The Gibraltar Force of about 5,000-7,000 troops, was infiltrated into the Indian Occupied Kashmir (IOK) around 5 August but met limited success: over the following 10 days, the Indian Army launched a counter-offensive and 12th Division was hard-pressed to hold its positions along the Cease Fire Line. After much debate, the GHQ then decided to launch Operation Grand Slam, aiming to lessen the pressure upon this division. Operation Grand Slam had originally been conceived as a second phase to Gibraltar, and to capitalise on the success of the infiltration. With its initial premise being lost, it became a desperate attempt to recover the situation in Kashmir. Ultimately, its consequences were grave and led to a full-scale war.

Preparations for Operation Grand Slam began in late July 1965, when 11th Cavalry had been detached from 6th Armoured Division and re-deployed to Kharian. Commanded by Muhammad Aziz, the unit headed towards the operational area on the night from 26 to 27 August. On 29 August, 13th Lancers Regiment, commanded by Muhammad Sher, was also ordered into forward positions in the



A map of Operation Grand Slam. (Map by Tom Cooper)



A map of operations by 5th Armoured Brigade on 8 September 1965. (Map by Tom Cooper)

Chhamb Sector. The loss of two out of its three regiments was keenly felt by 6th Armoured Division. As compensation, it was reinforced by 22nd Cavalry, which was detached from 7th Division when the formation shifted north to Chhamb. 13th Lancers thus ended up operating with 7th Division in Chhamb. Such reshuffles reflect poorly on GHQ: obviously, it would have been far simpler to leave one of the two regiments with their parent formations. This was not the last mistake: 6th Armoured Division was further denuded of troops when a company of 9th Frontier Force was sent to support 11th Cavalry and the remaining battalion was despatched to Kharian for administrative duties with the headquarters of I Corps. Ultimately, the 6th Armoured Division was thus reduced in strength to barely an armoured brigade.

Grand Slam was unleashed on 1 September 1965, with 11th Cavalry – under command of 102nd Brigade – advancing on two axes from the area of Nandpur. The main effort with two squadrons of M48s was directed towards the Phagla Ridge and the high ground overlooking the Tawi crossing. The auxiliary effort with a squadron of M36B2s headed for Chak Pandit. The Indian main defences were well up-front, resting on the Cease Fire Line, and supported by a squadron of AMX-13s of the 20th Lancers. Easily breaking through a company position, the leading squadron of M48s commanded by Raja Iqbal swung northwards behind the Indian defences. One squadron advanced towards Chhamb along the track from Phagla, and in the process captured two AMX-13s. As it swung west of Chhamb in an

effort to get to the Tawi crossing, it ran into an ambush and lost six tanks, some to the excellent 75mm high velocity gun of the AMX-13. After negotiating very rough terrain, the second squadron managed to encircle Chhamb from the north and destroyed three AMX-13s that were heading towards Sakrana. The battered Indian squadron eventually withdrew across the River Tawi with only three operational tanks.

Equipped with M36B2s, the third Pakistani squadron had the roughest time. It lost three tanks in the opening engagement and a number broke down *en route*. Reza Shah, the squadron commander, changed to a serviceable tank every time his tank broke down and was finally on the only one left. Just a few hundred yards short of Chak Pandit, his thinly plated M36B2 was hit by a recoilless rifle and exploded, killing him. Though recommended for a posthumous award of Nishan-e-Haider, he was awarded a Sitara-e-Jurat.

In the southern part of the Chhamb Salient, a squadron of 13th Lancers provided a base of fire to an infantry battalion capturing Burejal. The regiment had arrived just an evening before the operation, and was to be employed in the next phase – the capture of Akhnur. An ad hoc squadron raised from personnel of the Armoured Corps Centre also arrived at the last minute. Equipped with M4A1 Sherman IIs used for training purposes, it was employed along the foothills for the capture of Dewa. Much has been debated and written about the transfer of command of the offensive force, and the delay of two nights attributed to this change: what is certain is that this delay enabled the Indians withdrawing from the Chhamb Salient to recover and establish a defence in line with Jaurian, 13km behind the River Tawi.

On 3 September, 13th Lancers with two squadrons of M48s and 10th Infantry Brigade broke out from a bridgehead, but the boggy flood plain of the River Tawi and a delaying position at Troti slowed their advance. Next day, a dawn attack on the delaying position from the north by 6th Frontier Force and 13th Lancers was unsuccessful. A flanking attack from the south by 10th Infantry Brigade managed to capture Jaurian on 5 September, but 13th Lancers was unable to exploit the success because it was held up by a minefield.

For the past few days 11th Cavalry had been recovering and repairing its tanks. By 4 September, it had reorganized itself into a two-squadron regiment and had crossed the Tawi with about 20 tanks. The next day it detached a squadron to support a dawn attack on 6 September on the northern flank of Troti by 8th Baloch. This was the last operation that 11th Cavalry undertook in this sector. Information was received of the Indian offensive in the Lahore Sector, and forces from Chhamb reverted back to their parent formations in the Ravi-Chenab Corridor. With the withdrawal of 11th Cavalry, an infantry brigade and a large portion of the supporting artillery, the offensive stalled.

13th Lancers claims that its leading elements were within six and a half kilometres of Akhnur when the advance was halted. Brigadier Said Azhar, who was second-in-command of 13th Lancers, recalls that immediately after the war, an officer of the UN Observer Group



11th Cavalry in Chhamb, as painted by Hal Veban Petman. The Mondiala Ridge can be seen in the background.



Captain Mukhtar Ahmed, 13th Lancers, in the Chhamb Sector, during the 1965 War.

crossed over from Kashmir and stopped at the field mess of the regiment. He was curious why the Pakistani forces had halted short of their final objective considering that the Indians had no troops to defend Akhnur. With better articulation of command, the armoured force in Chhamb could have performed much more effectively. The absence of a brigade headquarters to command two tank regiments — with four squadrons of M48s — slowed down the momentum of advance against a very weak force of two squadrons of the Indian 20th Lancers equipped with AMX-13s.

Armoured Battle in the Ravi-Sutlej Corridor

On the night from 5 to 6 September 1965 the Indians launched an offensive in the Ravi-Sutlej Corridor. 10th Division with one tank



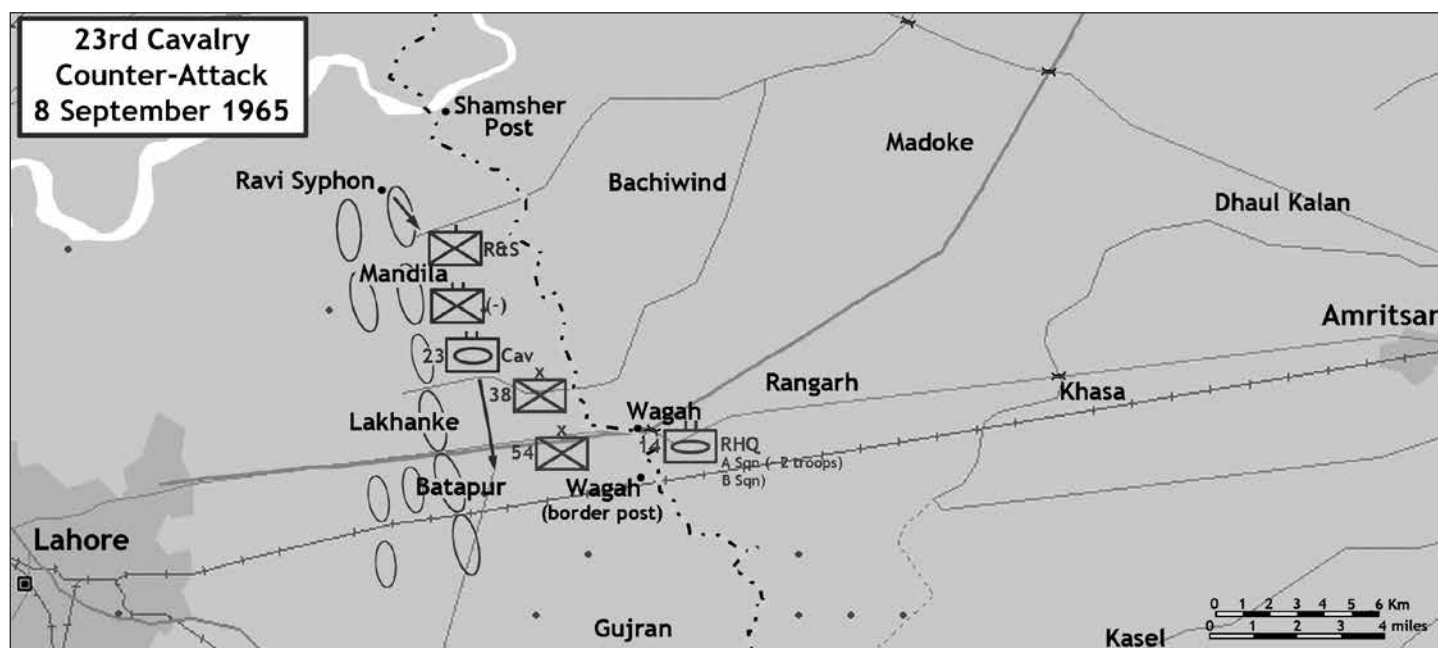
From left to right: General Sarfraz (GOC 10 Division), General Musa (C-in-C Pakistan Army), Air Marshal Nur Khan (C-in-C Pakistan Air Force), and Field Marshal Ayub Khan at the Lahore Sector.

regiment and 30th Tank Delivery Unit (TDU) – equipped with old Shermans – defended the Lahore Sector. They were tasked with supporting the holding brigades, but the unit lacked a commanding officer: this arrived only on 7 September, when S.R.C. Daniels from the Staff College took over the command. Also equipped with M4s, 23rd Cavalry Regiment, commanded by Ghulam Muhammad, was grouped with the division's strike force.

10th Division occupied its forward defences just in time to check the Indian advance. The first Indian tanks appeared on the bridge over the BRBL (Bamban Wala-Ravi-Balloki Link) Canal at Batapur at around 06:30 and were engaged by aircraft and recoilless rifles. The bridge had been only partially demolished and 'C' Squadron of

23rd Cavalry, commanded by Amin Mughal, along with an infantry company and a reconnaissance and support company (R&S) rushed to block the enemy advance. The squadron arrived at the bridge at 11:30 and in the first rush, two tanks, including that of the squadron commander, were hit. While the squadron and recoilless rifles kept the Indians at bay and destroyed two tanks, frantic and determined efforts by the Pakistani engineers to complete the demolition of the bridge succeeded only at dawn the next day.

Contrary to the intentions of the Indian commanders and the bold headlines that appeared in their press, the Indian advance lacked vigour and suffered setbacks that ultimately caused the dismissal of the commander of the division operating on this axis. Emboldened, by



A map depicting the counterattack by 23rd Cavalry on 8 September 1965. (Map by Tom Cooper)

midday on 7 September Major General Sarfraz, GOC 10th Division, had thus decided to strike back. In spite of the division's strike force having been diluted by reinforcing the forward defences, a brigade group of a battalion less two companies, a company of R&S, and 23rd Cavalry crossed the canal at the Ravi Syphon and launched an attack in the early hours of 8 September. It initially met some resistance in which two tanks of the leading troop were hit, but the JCO troop leader resolutely kept engaging the Indian tanks until the remaining squadron crossed the syphon. A subsequent uninterrupted advance of eight kilometres towards the Grand Trunk Road was finally checked by two Indian troops of Shermans. A two-hour-long firefight ensued, in which the Indians lost two tanks and then broke contact. This enabled the leading squadron of 23rd Cavalry to advance and deploy astride the Grand Trunk Road. While the regiment leaguered after dark, supplies were ferried over the canal, and engineers constructed a pontoon bridge.

This attack not only scattered two battalions of Indian infantry but panicked their commanders into the conclusion that Amritsar was under threat. Correspondingly, they re-deployed the corps reserve of an infantry brigade to block the Pakistani advance. In turn, the Pakistani forces now held two bridgeheads across the canal: a relatively smaller one at Dograi astride the Grand Trunk Road, and a larger one further north. This salient at Dograi became the target of a successful Indian attack just before the ceasefire. To reclaim this salient a counterattack was launched, supported by two squadrons of 23rd Cavalry, meanwhile down to just 14 Shermans. The attempt was unsuccessful and the regiment lost four tanks. This was the last action of the war for the regiment.

Lahore Sector

Next to 10th Division, events had occurred involving 1st Armoured Division and 11th Division which had been hastily cobbled together with two brigades, each with only two battalions. The armour provided to the division was sizeable, but with a mixed bag of tanks consisting of 6th Lancers with worn out M47s, 15th Lancers with M24 Chaffees and 32nd TDU with Shermans. While defending the sector south of Lahore, the division also had an offensive task with 5th Armoured Brigade under command. In an earlier plan, the objective of the offensive was the bridge over the Beas near Raya at a distance of 70km. However, when the brigade was released to 11th Division on 6 September, the objective was curtailed to the capture of the line of Bhikiwind-Patti, 40km away. 5th Armoured Brigade, commanded by Bashir Ahmed, was a light brigade with only 24th Cavalry — which had cut its teeth in the Kutch operations with its M48s — and 1st Frontier Force. For this operation, the brigade was reinforced with 6th Lancers and a squadron from 15th Lancers.

Unfortunately, all that 11th Division could provide for a bridgehead was an infantry battalion. The engineers were to construct a bridge over the Bhambanwala Ravi Balloki Link (BRBL) Canal, but it was delayed due to a number of reasons, including poor traffic control, that resulted in the vehicles carrying the bridging equipment stuck far in the rear. In fact, traffic control for moving a force the size of an armoured brigade into the bridgehead was non-existent. Adding to this predicament was the Rohi Nallah just ahead of the BRBL Canal, whose existence was either not known or not factored in by the planning: it required a major engineer effort to get across. Tragically, at that point in time no one was aware of the existence of an excellent crossing site over the obstacle a short way downstream, which could have saved time and effort and permitted a smoother induction of the armoured brigade.

The operation commenced on the night of 6 September with the



Lieutenant-Colonel Sahibzad Gul SJ, Shaheed, one of the best armoured regiment commanders during the 1965 War.

2nd Frontier Force establishing a bridgehead two kilometres in length and depth. It was no small achievement for a single infantry battalion, but meagre in size for an armoured brigade. 5th Armoured Brigade had initially planned to breakout by 06:00, but with successive delays at the bridging site, the congestion of tanks and vehicles moving forward to meet the deadline and heavy Indian shelling, only one squadron of 24th Cavalry — that was to actually follow 6th Lancers in the order of march — pushed itself across the BRBL Canal. However, it had to stop short of Rohi Nallah. When 6th Lancers finally got the go-ahead to cross the canal, its leading tank — with the squadron commander — fell off the bridge and all movement across stalled because the bridge was considered unsafe. When the regiment finally crossed the bridge over the BRBL, it was held up at Rohi Nallah because the tanks stalled at the exit, which was too steep. Meanwhile, the bridgehead held by just one battalion remained extremely vulnerable. To improve its security, the decision was taken to launch a raid in the direction of Khem Karan. Launched at 15:00, this was carried out by a company of 1st Frontier Force, a rifle troop of 15th Lancers, and the first six tanks of 6th Lancers to cross the Rohi Nallah. The raid struck a troop of 9th Deccan Horse and two infantry companies. Two Indian tanks were destroyed, the third escaped and the two companies were decimated. After pulling back, the raiding force was instructed to occupy Khem Karan, which had been vacated by the Indians.

Despite this success, the induction of the 5th Armoured Brigade into the bridgehead was delayed by problems with crossing sites. The CO of 15th Lancers, Muhammad Iskander ul-Karim (Bachu Karim), was given the task of traffic control, but he had too few soldiers with him to establish any order, and was eventually forced to threaten the vehicle drivers with a pistol in his hand. By the last light of 7



A gun-position of an 8-inch M115 howitzer, fondly nicknamed 'Rani', in the Lahore Sector, during the 1965 War.

September, the leading elements had thus advanced only a mile past the custom post at Khem Karan. Ultimately, the brigade broke out on 8 September on two axes with the M47s of 6th Lancers under their indomitable commanding officer Sahib Zad Gul. Advancing for 10km and having their right flank protected by a squadron of 15th Lancers, commanded by Akram Hussain Syed, they made good progress towards Valtho. 24th Cavalry led by Ali Imam only arrived in the bridgehead on the morning of the breakout, and then advanced on the left into stiffer opposition by Shermans of 9th Deccan Horse, the only Indian armoured regiment in the area: however, unlike the Pakistani M4s, this Indian unit operated Shermans equipped with the superior 76mm cannon.

By the afternoon of 8 September, 24th Cavalry was battling south of Chima against the defences of the Indian 4th Mountain Division and an uncoordinated but successful manoeuvre by two squadrons forced a Ghurkha battalion to abandon its defences.³ Unfortunately, no Pakistani infantry was available to follow into the captured area at last light: 11th Division did have two infantry battalions in the bridgehead, but one was used to mop-up Khem Karan, and the other was unutilised. The armoured regiments also desperately needed replenishment. Appreciating that the logistic vehicles would not be able to reach forward, the brigade commander decided to withdraw the armoured brigade back to the start line. The success achieved by a hard day of fighting was lost. The brigade then requested 11th Division to allow a pause in operations for 24 hours to enable the regiments to reorganize. Following some confusion and delay, the brigade was ordered to resume its advance on the afternoon of 9 September, and reoccupy the ground that it had lost. By now, the Indians had inducted a second armoured regiment into the battle zone: 3rd Cavalry equipped with Centurion Mk. 7s along with the tactical headquarters of the 2nd Armoured Brigade had reinforced the defences of 4th Mountain Division at Asal Uttar.⁴

Asal Uttar

A new bridge had been constructed over the Rohi Nallah by the afternoon of 8 September and by the following morning the leading

elements of 6th Armoured Division were crawling into the bridgehead: around midnight, and after some dithering, GHQ finally issued an open-ended mission for the division to 'overrun maximum enemy territory'. With both 4th and the 5th Armoured Brigades being compressed into a small area – and that while commanded by different HQs – the vehicle congestion was still chaotic and from the bridge at Rohi Nallah it stretched three kilometres back to the Kasur-Ferozepur road presenting an ideal target for Indian aircraft: fortunately, the Indian Air Force had its hands full grappling with a smaller but more aggressive opponent.

The HQ of 11th Division had no idea of the exact situation in front of it. 4th Armoured Brigade, commanded by

Anthony Lumb, moved out first, but had no opportunity to establish connection to 5th Armoured Brigade, which was still under command of 11th Division. At 13:00 on 9 September, 4th Armoured Brigade organised itself into two taskforces – centred on Probyn's Horse, commanded by Muhammad Khan, and 10th Frontier Force – and then advanced in a wide manoeuvre along almost exactly the same route traversed by 24th Cavalry two days earlier. Its advance was slow due to difficult terrain and numerous tanks from Probyn's Horse were bogged down however, and by last light the brigade only reached the area a few kilometres east of Mastgarh. Contrary to the orders, the brigade then withdrew to this town to bivouac for the night. Early during 10 September it was joined by 4th Cavalry.

Meanwhile 5th Armoured Brigade had also resumed its advance along the main road and the railway line on the afternoon of 9 September. Two of its left battlegroups made some progress in an attempt to skirt the Indian defences at Asal Uttar; however, the leading squadron of the third battlegroup – 6th Lancers – then managed to penetrate all the way to Valtho, and, as per the quote attributed to Napoleon Bonaparte, 'There is a moment in every battle at which the least manoeuvre is decisive and gives superiority, as one drop of water causes overflow'. However, neither the division nor the brigade made an effort to capitalise on this success. On the contrary, after their commander was martyred and lacking orders, the tanks of 6th Lancers withdrew during the night.

During the night from 9 to 10 September, 5th Armoured Brigade was reverted to 6th Armoured Division, the HQ of which was made responsible for the offensive. By the morning of 10 September, it was already the third day since the 5th Armoured Brigade had been ordered to attack, and yet the Pakistani armour had penetrated only about 10km into India. The HQ thus planned to continue with a two-pronged advance: 5th Armoured was to act as the main axis and advance on Bhikiwind, while 4th Armoured was to outflank the enemy and cut the main road at Milestone 32.⁵

Although joining the force only few hours earlier, 4th Cavalry led the charge, setting off at 05:30. Initially, it advanced slowly between the Rohi Nallah and the Khem Karan Minor. However, the Indian

2nd Armoured Brigade was meanwhile well prepared and the reconnaissance troop of its 3rd Cavalry was carefully monitoring the movement of the Pakistan tanks. Indeed, as 4th Cavalry continued its advance, it exposed its broadside to the Indian tanks positioned behind the Khem Karan Minor and began suffering losses. The progress of the left front squadron was then held up by a troop of 3rd Cavalry redeployed to block its advance. Moreover, instead of advancing to the right of 4th Cavalry, 10th Frontier Force turned left, ending on its left side.

Around the noon, the CO of the 4th Cavalry ordered a break. After assessing his situation, he decided to exploit with his third squadron, by striking at the centre of the Indian positions in front of him. Because the CO of that squadron was already injured, Colonel Nazir decided to lead this attack – until his tank was hit. Having determined the direction of 4th Cavalry's thrust, the Indians meanwhile deployed two squadrons of 3rd Cavalry's Centurions – backed-up by a Sherman-squadron of Deccan Horse – in two semi-circles, a few kilometres short of Milestone 32. All tanks were ordered to hold their fire until the Pakistanis were deep within their killing range. While the Indians claim credit for inundating the area, actually, only a relatively few patches were flooded: further flooding was created by tanks that broke banks of several minor canals and tributaries. Actually, the terrain was generally firm. Much more of a problem during the advance was caused by the tall

crops, which the Indians used to their advantage. Severe fire into its flank knocked out numerous tanks of the 4th Cavalry, while others bogged down. The unit continued moving, nevertheless: by the time it reached the objective, it was down to ten tanks, of which only six were fit to fight, three were bogged down in a nearby field, and the fourth had run out of fuel. The situation was then worsened by other developments. While the brigade HQ dispatched logistic elements forward, an unexpected withdrawal by parts of 10th Frontier Force created panic: during the night, many crews from 4th Cavalry abandoned their tanks; four officers – including the commander – and



A troop of M47s, all mounting .50 cal Browning machine guns, in the Khem Karan Sector during the 1965 War.



Abandoned M47s of 4th Cavalry, Pakistan Army, as found by the Indians after the battle. (Albert Grandolini Collection)

21 other ranks were taken prisoner by the Indians. Eventually, all but seven tanks of the unit were lost, and the advance on Milestone 32 was for nothing.

With hindsight, 4th Cavalry Regiment cannot be faulted for lacking determination: it was one of only a few units in the entire division to reach its assigned objective. On the contrary, 5th Armoured Brigade was not only late: many of its vehicles did not get back to the start line by the morning of 10 September. By the time the unit finally moved out, it was already noon. With 6th Lancers down to 21 tanks, the brunt of the following advance fell on 24th Cavalry, which assaulted Asal

Uttar while supported by three infantry companies. This objective was the centrepiece of the Indian 4th Mountain Division's defences, and it was little surprising that the first attempt was checked by a combined fire from its tanks and recoilless rifles. Samiuddin Ahmed, commander of a squadron from 24th Cavalry, recalled:

The artillery fire was intense and created a large cloud of dust that hung over the combat zone making it difficult for the tank crews to acquire targets. All that was visible were the barrels of the tanks' guns and the flash of their fire.

The second attack was aborted when the brigade commander was ambushed and the commander of divisional artillery, Brigadier Ahsan Rasheed Shami, was martyred. Coupled with the withdrawal of tanks dispatched to rescue them, their absence resulted in panic of the infantry. A large number of vehicles – including those of 5th Armoured Brigade's HQ – rushed back towards the bridge over the Rohi Nallah. The tank crews stood firm, and there was only the odd case of panic amongst them, but they could not avert a withdrawal in disarray. In a repeat of what had happened to 4th Armoured Brigade, 5th Armoured Brigade thus failed to reach its objective, marking the swansong of 6th Armoured Division's operations on 10 September. After these setbacks, its commander had decided to pause for a day to regroup, before resuming the advance. However, a false alarm about a tank threat vis-à-vis 10th Division caused an infantry battalion to abandon its positions on the aqueduct on the Hudhara Drain. This caused a crisis for 3rd Armoured Brigade, commanded by Moin Ud-Din, which had to be diverted to neutralise this threat. This in turn created a crisis in the Ravi-Chenab Corridor, eventually prompting GHQ to order a suspension of offensive operations by 6th Armoured Division, and re-deploy its 4th Brigade north, post-haste.

Nominally at least, 6th Armoured Division was thus out of the battle in the Khem Karan Sector. The Indians immediately attempted to recover the lost ground by launching several counter-attacks. However, they seriously underestimated the Pakistani forces: the first attempt on 12 September – undertaken by an infantry brigade supported by a squadron of tanks – was ambushed by the Shermans

of 6th and 15th Lancers. The Pakistani tanks captured 6 officers and more than 150 other ranks; 40 others were collected by artillerists of 3rd Self-Propelled Field Regiment. Supported by three companies of the Frontier Force, the M48s of 24th Cavalry – the 1st Armoured Division's sole regiment equipped with that type – checked the second attempt: while some Indian tanks managed to penetrate the first line of Pakistani defences, Major Khadim Hussain – who arrived in the area with the supply echelon to replenish the 24th Cavalry – came upon a recoilless rifle whose crew had been killed. Assisted by a *naik* (corporal) of 5th Frontier Force he swung the gun at the Indian tanks and destroyed one from a range of 500 metres, and then another from less than 200 metres. The third Indian tank killed the officer and *naik*. Khadim Hussain was awarded a posthumous Sitara-e-Jurat for his bravery but the Indian assault faltered.

A few hours later, the third Indian battalion – supported by a squadron of Shermans – assaulted along the main road only to run into strong fire from 5th Frontier Force, the right flank of which was supported by a Chaffee squadron of 12th Cavalry, commanded by Rafi Alam. As the enemy drove closer, Alam swung west and then hit the right flank in the Khem Karan Distributary area, destroying two tanks in the process, causing the others to halt and then withdraw. Alam's squadron went on to achieve another success when counterattacking a squadron of Centurions of 3rd Cavalry near Sankhtara and knocking out three of these.⁶

The final assault on Khem Karan was a night attack launched just before the ceasefire by two brigades, and the armour was only in the supporting role. None of the Indian brigades could capture their objectives.

Indian Offensive in the Sialkot Sector

15th Division of the Pakistan Army was defending the Sialkot Sector with eight battalions distributed into four brigades, one armoured and one reconnaissance regiment, and two Tank Delivery Units (TDUs). 20th Lancers commanded by Akbar Hussain Shah, was the reconnaissance regiment equipped with M24 Chaffees and was deployed ahead of the infantry brigade defending Sialkot. It covered the area between Chaprar and the main road to Jammu. 25th Cavalry

commanded by Nisar Ahmed had two squadrons of M48s and one of M47s, and was assigned to 24th Brigade covering the Pasrur axis. 33rd TDU with Sherman IIs was commanded by Mervyn Cardoza and was with the brigade defending Jassar. Finally, 31st TDU, also with Sherman IIs and commanded by Fazle Elahi, was with the 'striking force' of a brigade behind Sialkot. Comprising nearly all reservists, the TDUs were authorised just ten officers of which only the commanding officer, his second-in-command, and the quartermaster were active: all the others were reservists.

While 6th Armoured Division acted as the 'Striking Force North' under command I Corps, it was a division on paper



A disabled M4A1 Sherman of the 33rd TDU, as found near the railway bridge in the Jasser Enclave.

only. With the redeployment of 11th Cavalry and 13th Lancers to the Chhamb Sector, it had only two regiments on hand: 22nd Cavalry with three squadrons of M48s and the Guides with two squadrons of M48s and one of M36B2s. Its two lorried infantry battalions were 9th Frontier Force (minus one company), which was released from Kharian on the day hostilities commenced, and 14th Frontier Force. This 'division' was supported by 1st Self-Propelled Artillery Regiment.

The opening rounds in the area of I Corps were fired east of the River Ravi in the Jassar enclave. Defended by a single battalion (the rest of the brigade held the line of the river), supported by 33rd TDU, this was connected through a steel road and a rail-bridge pre-dating Independence. The Indian attack sought to eliminate this enclave, and was launched in the early hours of 6 September. The Indians managed to close up to the bridge before a squadron of 33rd TDU was sent forward: the tanks crossed the bridge and launched a counterattack, which enabled the infantry to recover its positions. Two tanks were disabled by enemy fire, while another managed to withdraw across the bridge. During the night from 6 to 7 September, the Indians launched their second attack, this time managing to capture the eastern side of the bridge, which was then demolished, the following morning.

These two attacks caused alarm at brigade HQ, which infected the HQ of 15th Division too: it appeared that the Indian assault through Jassar was a prelude to the main effort. Overreacting to the situation and in spite of the fact that nearly all of 33rd TDU was available in the vicinity, at 18:00, the brigade at Chawinda was ordered to despatch 25th Cavalry with an infantry battalion to counterattack the enemy bridgehead at Jassar Bridge. Moreover, the Corps chipped in by redeploying a complete artillery brigade. The War History of 25th Cavalry records that the commanding officer of 33rd TDU was very upset (and rightly so) about the arrival of the regiment in his area as he was confident about eliminating a lodgement whose dimensions were hardly more than 1,700 sqm. The leading squadron of 25th Cavalry had reached Narowal when it was ordered to return because the Indians had started shelling the forward defended localities (FDLs) opposite Sialkot. After a wild ride of 65km to Narowal and back through the night, all the tanks needed to be replenished and the crews were in need of sleep.

Eventually, the first Indian attack in the direction of Sialkot, launched on 6 September, advanced only a few kilometres. Two days later, a hastily planned counterattack was staged, including two squadrons from 20th Lancers and a squadron of 31st TDU. This effort stalled on the Palkhu Nallah, which the tanks could not cross, and in the light of the loss of eight tanks. While 20th Lancers continued to cover the area north of the Sialkot-Jammu Road, the squadrons



M4 Sherman of the Indian Army, modified with the 75mm high-velocity gun, as captured by the Pakistani forces.



Pakistani troops sorting out the ammunition of Centurion tanks captured from the Indians. APDS-rounds are visible at the left bottom.

of 31st TDU — which had originally formed part of the strike force — were employed astride the road and to its south for launching counterattacks and containing the Indian penetration. This they did quite effectively: during one of the following clashes a squadron from 31st TDU supported by a company of 9th Baloch, destroyed all six tanks assigned to 18th Cavalry of the Indian Army.

That said, the Indian efforts in this sector were seriously constrained by major technical failures that befell the Shermans of 18th Cavalry: the tanks in question had recently been upgraded with the excellent French 75mm high-velocity gun. However, according to the War

History of that unit: 'The premature clearing of a major modification like the mounting of a high velocity gun on the Sherman without adequate strengthening of the gearing for taking up the increased weight and overhang was uncalled for'. Therefore, guns on all tanks had to remain fixed in their travel locks during the deployment to the combat zone. Indeed, several were destroyed in that condition before their crews could bring them into action. The result of the Indian effort in the Sialkot Sector was thus unimpressive: in 15 days of fighting, the Indians only managed to advance to a depth of 3-4 kilometres. Only the main effort by their armoured division in the area between Aik and Degh Nallah was to prove more successful – and then in its initial stages.

Men of Steel versus the Black Elephant

The 1st 'Black Elephant' Armoured Division of the Indian Army (Major General Rajinder 'Sparrow' Singh) still had a Second World War-style organization, and thus consisted only of the 1st Armoured Brigade (including the Poona Horse and 16th Light Cavalry), with a lorried battalion and a motorised infantry battalion (minus one company), and the 43rd Lorried Brigade with two tank regiments (2nd Lancers and 62nd Cavalry, minus one squadron) and two lorried battalions. All regiments of the armoured brigade were equipped with Centurion Mk 7s, armed with the 20-Pounder (84mm) gun. The 20-Pounder was slightly smaller than the 90mm of Pakistani M47s and M48s, but fired the APDS ammunition with muzzle velocity of 1,465m/sec: this exceeded the 1,235m/sec of the HVAP ammunition in the Pakistani tanks. The Centurion was also better protected in comparison to the M48, but was seven tonnes heavier while having an engine with 100 horse-powers less. 2nd Lancers were equipped with Shermans modified with the French high-velocity 75mm cannons that suffered the same problems as those of 18th Cavalry. Unsurprisingly,

that regiment's performance in operations towards Zafarwal remained unimpressive.

Just after first light of 6 September, the Black Elephant Division breached the weak defences of the Pakistani infantry and R&S troops, and then continued its advance on two axes. The armoured brigade headed towards Chawinda, while the lorried brigade moved further west, on an obscure route towards Phagowal. The tanks of the lorried brigade bogged down even before they reached the international border, and its two armoured regiments became entangled, while the armoured brigade was incorrectly arrayed for battle already before entering Pakistan. The concentration area of Poona Horse was on the right of 16th Light Cavalry where as it had to advance on its left. Therefore, when 16th Light Cavalry started from its concentration area near Ramgarh, Poona Horse cut diagonally behind its leading squadrons and the reserve squadron of 16th Light Cavalry followed Poona Horse instead of its own regiment. The flank guard, which was to move east of Deg Nallah, also had to do the same and was delayed.⁷

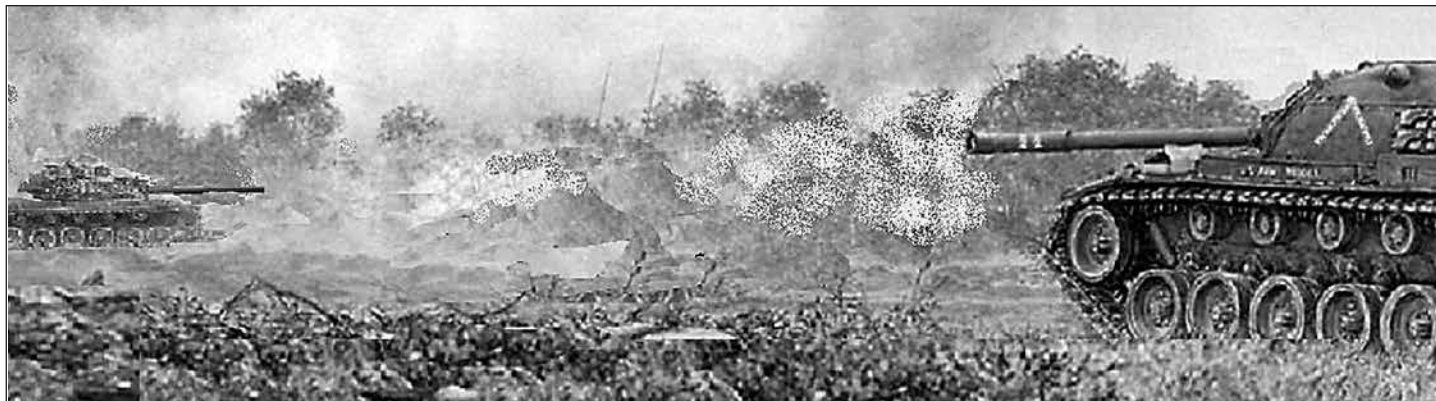
Due to this foul-up, both flanks of the Indian 1st Armoured Brigade were exposed. Nevertheless, it took the Pakistanis by surprise and thus encountered no opposition, but progressed faster than expected. Indeed, 16th Light Cavalry penetrated 12 kilometres within just two hours. Had 20th Lancers – the primary reconnaissance element of the I Corps of the Indian Army – been in its position, as planned, it could have provided early warning about the Pakistani reaction, and caused a delay and thus enabled the Indians to respond more effectively.

The news about this Indian advance reached Pakistani GHQ, 25th Cavalry was still refuelling at Pasrur in the aftermath of its tiring dash towards Narowal and back, at dawn of 8 September. The unit was promptly ordered to block the enemy advance. Its subsequent action was what legends are made of – not only because the youngest regiment of the Pakistan Armoured Corps thus clashed with the oldest formations of the Indian Cavalry.⁸

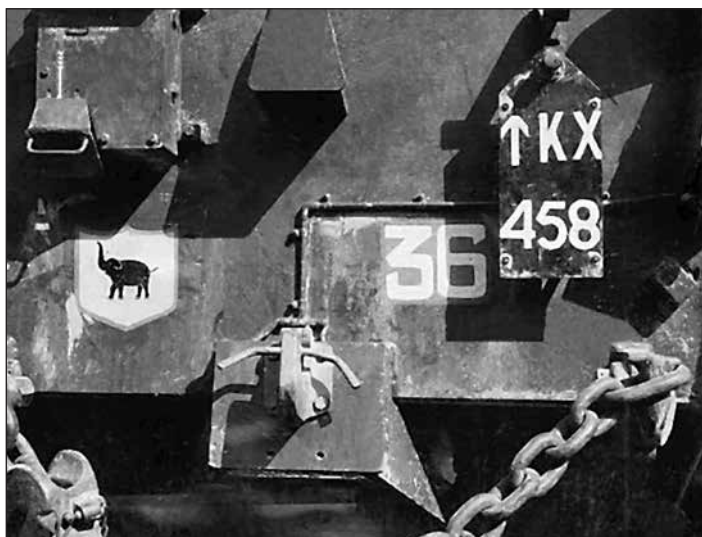
The decision was taken for B Squadron, commanded by Muhammad Ahmed, and C Squadron, commanded by Raza Khan, to advance astride the track leading from Chawinda to Phillaurah, while A Squadron, commanded by Affandi, was initially to act as reserve, but then ordered to move on Dugri. Ahmed's B Squadron ran into the enemy as first: around 09:00 it hit the flank of 16th Light Cavalry. Deciding that offense was the best defence, Ahmed attacked toward Gadgor, forcing the Indian unit – already shaken by earlier loss of a few tanks to the R&S Platoon of 13th Frontier Force – to recoil. Indeed, the Indians fell back and so bold was the thrust by Muhammad Ahmed's squadron that one of his tank troops, commanded by Naib Risaldar Muhammad Akbar, pursued the enemy all the way to Maharajke: the unit returned only after a



Officers of 25th Cavalry during the 1965 War. Front, from left to right: Gul (AMC), Maj Raza Khan (Ginger), Col Nisar Ahmed, Lt Khalid Khan, Capt Ahmad Iqbal. Middle row, from left to right: Capt Shamshad Ali Khan and Major Affandi. Rear row, from left to right: Capt Mehmud Ali Durrani, Capt Ghulam Jan, and Major Sikander (Sikko) Khan. Missing from this picture are Muhammad Ahmed and Farrukh Khan



A painting depicting an M48 of 11th Cavalry engaging Centurions of Poona Horse at Phillaurah, on 11 September 1965.



Insignia of 1st Armoured Division of the Indian Army, as found at the rear of one of the captured Centurion tanks.

sharp but short engagement with elements of 43rd Lorried Brigade. Ahmed personally destroyed five Centurions and changed his tanks twice (both times because of mechanical failures) before the third one was hit and he was seriously injured: his gallantry was awarded with a Sitara-e-Jurat.⁹ As it continued its counterattack, Ahmed's squadron lost contact with 25th Cavalry, and Farrukh Khan, the Regimental Mechanical Transport Officer (MTO) was sent forward to find it. Khan recalled having found the squadron commander's tank smouldering and the crew evacuated around noon, Ahmed's hand and face being badly burn, but the commander was calm and collected. Farrukh took over and commanded the survivors of the unit until the regiment was regrouped into two squadrons.

Meanwhile, a squadron of 16th Cavalry ran into a troop from A Squadron of the 25th Cavalry at Phillaurah: in a quick and sharp engagement, the Pakistani tankers knocked out four Centurions – including the Indian squadron commander – while losing one of their own. Just then, additional Centurions were knocked out in an air strike by North American F-86 Sabre fighter-bombers of the Pakistan Air Force (PAF), guided by one Cessna L-19 Bird Dog light aircraft that acted as forward air controller (FAC).

To the east of 16th Cavalry, Poona Horse made a bad start when one of its tanks ran over the command vehicle of the regiment. The unit was planned to advance in parallel with 16th Light Cavalry but fell behind due to its diagonal move. Next, it suffered its first loss when a tank was knocked out by the Pakistani infantry, and a second when it was finally blocked by A Squadron of 25th Cavalry as this deployed along the line between the villages of Tharoh and Dugri. The war history of Poona Horse records that this happened 'just after the



The Sialkot-Chawwinda Railway, successfully defended by 6th Armoured Division, Pakistan Army.

division headquarters had ordered speeding up of the advance as no enemy opposition was expected!

As the situation stabilised on his right flank, Kaka Nisar, CO of 25th Cavalry, launched C Squadron, now commanded by Ginger Raza, from the left towards Gadgor. When seeing the approaching Pakistani tanks, the commander of 16th Light Cavalry called his reserve squadron for help, only to realise that this was miles behind and following the Poona Horse. Divisional HQ came to the rescue by dispatching a squadron of Hodson's Horse to his aid, but as this came closer it opened fire and only narrowly missed the tank of 16th Light Cavalry's commander. Still, the Indians settled down and put up fierce resistance, forcing C Squadron of 25th Cavalry to stop. The clash ended with 16th Cavalry disengaging under cover of Hodson's Horse at sunset, after losing two of its tanks.

Elsewhere, the late afternoon saw desultory fighting between A and B Squadrons of 25th Cavalry, until Ginger Raza collected a company of 2nd Punjab Regiment and launched his second attack on Gadgor. Although Raza received a head injury, he remained with his unit until the unfortunate 16th Cavalry was forced to withdraw in an eastern direction, leaving behind eight tanks, two with their engines running, in this area alone. The total loss of this Indian regiment included 16 Centurions – in exchange for only four losses to 25th Cavalry: however, with the latter also suffering from mechanical breakdowns, and having two its squadron commanders injured, the regiment was subsequently reorganised into two squadrons.

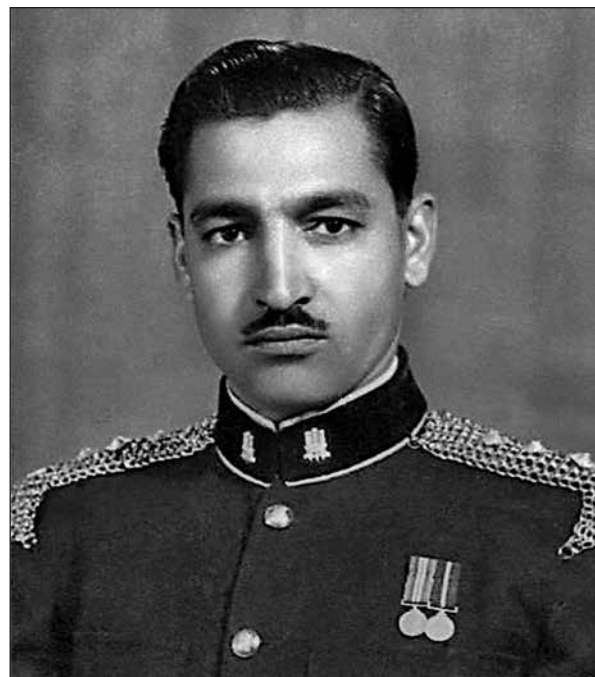
By the evening of 8 September, the offensive by the Black Elephant Division of the Indian Army came to a halt due to aggressive action by 25th Cavalry, which created the impression of the Indians facing much stronger opposition than expected. When the flank protection squadron of 62nd Cavalry ultimately arrived at the Deg Nadi, it collided with the gun positions of an Indian medium artillery

regiment, which had already leap-frogged across the border to its next position. A fire fight occurred in which the medium regiment suffered badly and when both reported engaging the enemy on their separate radio nets, it created an alarm of a threat from the east to the rear of the armoured brigade. Further confusion was created by ambiguous orders that resulted in a second clash between Poona Horse, which had been withdrawn to cover the perceived threat to the eastern flank, and 2nd Lancers which was leading the advance of the lorried brigade. According to the regimental diary of Poona Horse, earlier in the day, it had destroyed the tank of the commanding officer of 2nd Lancers. The 'dot on the i' was delivered by F-86s of the PAF: these had been very active throughout the day, and had destroyed many vehicles, causing a virtual breakdown of administrative support. The commander of the Black Elephant Division was left without choice but to stop for two days to reorganise and replenish. This in turn provided the critical respite for the defenders, who were still unaware of what kind of force were they facing.

Defensive Action by 6th Armoured Division

As of 8 September, 6th Armoured Division of the Pakistani Army was concentrated in the Gujranwala area. That evening, the I Corps tasked with destruction of the enemy penetration. However, during 9 September, while searching one of tanks left behind by 16th Cavalry in Gadgor, troops of 25th Cavalry found an operational order, which revealed them the presence of the entire Indian 1st Armoured Division. Upon this discovery, I Corps changed the mission of 6th Armoured Division to that of defence in the area between Aik Nallah and Deg Nadi. For this purpose, the division as reinforced by 24th Brigade – including 25th Cavalry – in the Gadgor area, plus a squadron of Shermans of 33rd TDU, and a company of R&S from the area of Jassar. Finally, 14th Parachute Brigade (with two battalions) was withdrawn from Azad Kahsmir to protect Pasrur, already held by 1st Punjab Regiment and a company of 4th Frontier Force. Amongst 6th Armoured Division's units was the 11th Cavalry, the crews of which were already exhausted after the operations in the Chhamb area. After travelling for 67km on their tracks, they entrained at Gujrat Railway Station for a trip to Rahwali. In Rahwali, the unit was reinforced by ten M36B2s taken from reserve, but these first had to have their protective grease washed off with diesel fuel.

With the box like defence of 24th Brigade forming a pivot, the GOC deployed the Guides, commanded by Amir Gulistan Janjua, to cover the large gap between Chawinda and Sialkot. The divisional reserves of 22nd Cavalry, commanded by Muhammad Yasin, and 14th Frontier Force were sited behind at Narowal. Fortunately, 9th Frontier Force had also arrived from Kharian and was protecting the right flank between Phillaurah and Degh Nadi to guard against any move through Zafarwal. The adjustments had been effected by first light on 9 September but Sahabzada Yaqub, who had arrived from the Staff College and was appointed as the Armour Advisor to the commander of I Corps, suggested a change in deployment of the armoured division. It was based on countering a number of possibilities, the primary of which was that of the Indian armoured division heading southwest through Chawinda towards Pasrur, and a secondary on a parallel route towards Bhagowal and Badiana. He suggested that each of the two nodal points of Phillaurah and Badiana should be held by a tank regiment and motorised infantry battalion, the crossroads at Bhagowal with a tank regiment and Chawinda and Zafarwal by two infantry brigades. The object of this deployment was to enable 6th Armoured Division to develop a strong armour thrust against the western flank of the effort heading towards Chawinda. There were apprehensions in the headquarters of 6th Armoured Division about



Muhammad Aziz, ex-Scind Horse, was martyred while leading 11th Cavalry.

replacing 24th Brigade Group with a lighter force that did not have a command headquarters. Consequently, the changes in deployment that were done during the night of 10–11 September were not entirely according to the concept of Sahabzada as the Guides, 22nd Cavalry and 14th Frontier Force were not displaced. However, 11th Cavalry and 9th Frontier Force relieved 24th Brigade Group, which moved down to Chawinda. While doing so it detached a R&S company, and the squadron of 33rd TDU to 14th Parachute Brigade, which occupied Zafarwal.

Major General Singh – commander of the Indian 1st Armoured Division – was a highly experienced officer.¹⁰ However his plan for resuming the advance was based on the faulty premise that the bulk of Pakistani armour was further west of its actual deployment. The presence of 25th Cavalry with both M47 and M48 tanks not only led the Indian commander to believe that he was opposing two armoured regiments: more importantly it made him conclude that the bulk of 6th Armoured Division (three Patton regiments) was deployed in the area between Gadgor and Chobara. His manoeuvre aimed at luring the Pakistani armour northwards and trapping it through a flanking movement from the west by his sole armoured brigade, followed up by an attack on Gadgor by the lorried brigade. To lure the three Patton regiments, the entire armoured brigade was to make a limited advance along the axis Chobara-Phillaurah on 10 September; disengage at dusk, and – concealed by the noise of artillery – sidestep eight kilometres to the west to a firm base from where it would kick off the next morning. With three infantry brigades also released to the armoured division to secure its manoeuvre, for all practical purposes Singh was actually commanding a corps. Fortunately for 'Sparrow', the deception manoeuvre, launched on the morning of 10 September, created no effect. If the scale of threat had registered with the headquarters of 6th Armoured Division, the move of 24th Brigade Group may have been delayed and the near disaster that occurred would have been averted.

The changeover that took place at Phillaurah that night was badly managed by the headquarters of 6th Armoured Division and with no intermediate controlling headquarters, the deployment of 11th Cavalry and 9th Frontier Force was uncoordinated. Therefore, what actually took place that night was not the planned occupation of a defensive position but a slow and badly conducted relief in line. At



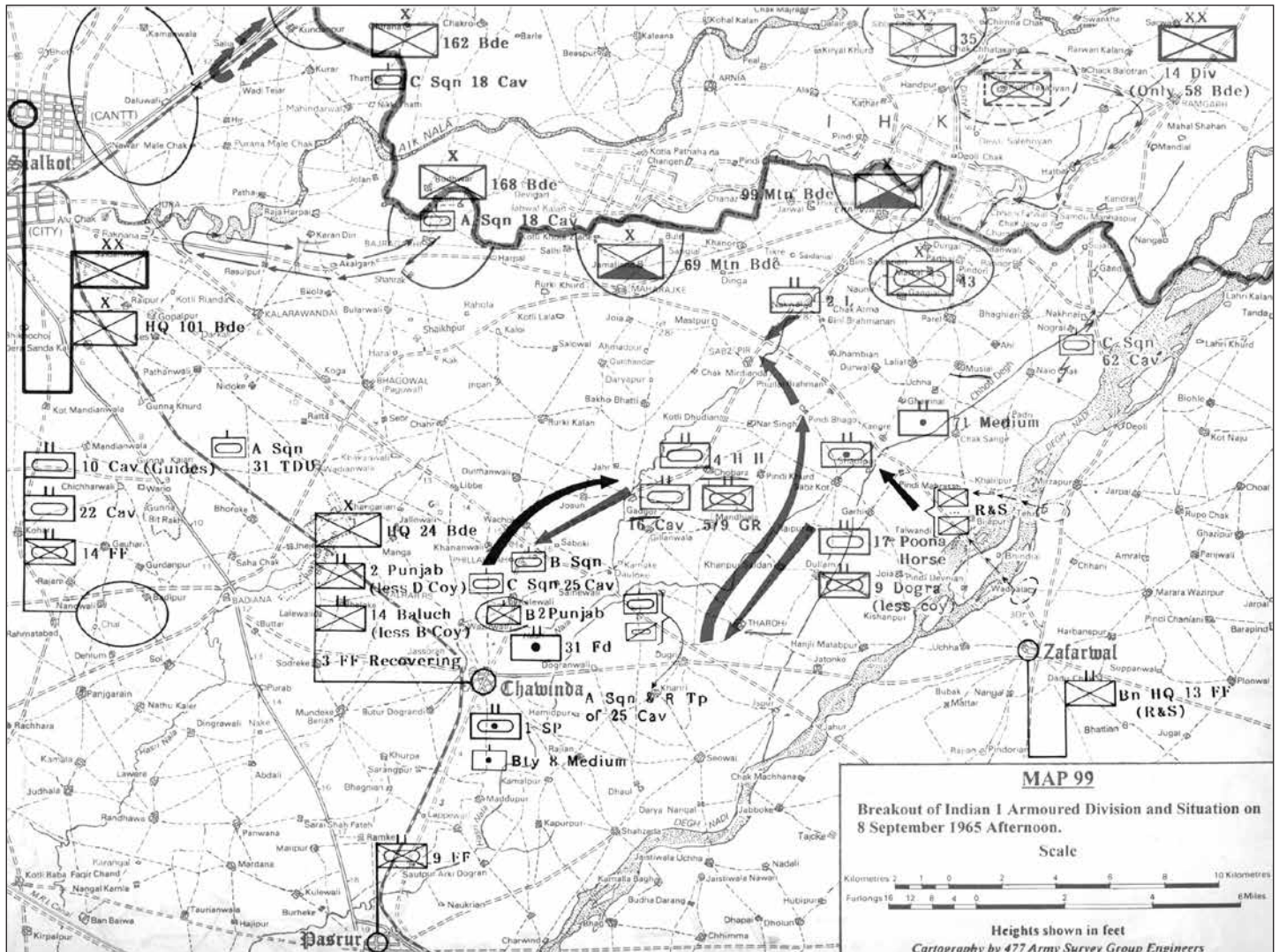
A memorial tablet erected on the battlefield where Z.U. Abassi, Hussain Shah, and members of their crews were martyred.

06:30 on 11 September, the Indian armoured brigade advanced with all three regiments in parallel. The right regiment established a blocking position on the Phillaurah-Sialkot road and the other two attempted a double envelopment of Phillaurah from the northwest.

They were engaged by 11th Cavalry whose combined strength of M48s and M36B2s did not exceed more than 30 tanks. In the next few hours of intense combat, the regiment fought exceedingly well and gave as good as they got. However, most of the M36B2s were destroyed in the early stages of the engagement by the Indian Centurions. Nevertheless, the regiment checked both Hodson's Horse and Poona Horse destroying five Centurions in the process, including the tanks of both their commanding officers. Poona Horse then attempted to outflank 11th Cavalry from the southwest, but the manoeuvre was blocked by a tank troop.

Just when the Indian assault seemed to be wavering, disaster struck. An artillery shell landed within the tactical headquarters of 11th Cavalry near the Phillaurah Rest House, fatally injuring Muhammad Aziz and seriously injuring his second-in-command Muzaffar Malik. Muzaffar's calm and firm orders over the wireless had been a source of strength to the regiment both earlier in Chhamb and during this battle. The commanding officer of 1st Self-Propelled Regiment, Abdul Rehman, was also martyred. In spite of this disaster and an obvious breakdown of command, by midday the remnants managed to extricate. In this fierce five hours of engaging the Indians, 11th Cavalry lost nine of its 11 M36B2s, and the other two squadrons lost seven M48s, out of 19, with another two damaged.¹¹

To release the pressure on Phillaurah, 6th Armoured Division launched a counterattack with the Guides at 10:45. Having been alerted a night earlier, the regiment had moved ahead of the Sialkot-Narowal railway line with its reconnaissance troop pushed forward south of



The breakout of Indian 1st Armoured Division on afternoon of 8 September 1965.



Major S. A. Rehman of 33rd TDU, with a Sherman of 2nd Lancers, captured during the Battle of Zafarwal.



M48s were the primary tank of 6th Armoured Division during the Battle of Chawinda.

Bhagowal. Around dawn the reconnaissance troop was engaged by 16th Cavalry, which was on its way to establish a roadblock on the crossroads at Khakanwali, and was forced to withdraw. Fazle Haq, who was second-in-command of the Guides, rallied the troop, moved it back to its forward position and in a subsequent engagement, it destroyed three tanks of 16th Cavalry. The artillery, which was deployed well forward south of Phillaurah, was under threat and the M36B2 squadron of the Guides was detached to cover its withdrawal. Thus, when the Guides launched its attack within 45 minutes of receiving the orders, it had only two squadrons of M48s and both were formed up on the railway line. The regiment had no information on the strength or location of the Indian armour, and all it knew was that the defences at Phillaurah had been overrun.

The attack by the Guides has been described as a classic cavalry charge with 'A' Squadron heading for Chahr and 'B' Squadron, commanded by Z.U. Abbasi, on its right, heading for Libbe.¹² After some serious fighting that lasted two hours, Chahr was captured and 16th Cavalry was pushed back, but the squadron commander was seriously injured. So effective was the artillery fire that on the way to the objective the squadron found five Centurions that had been abandoned after they had been exposed to a concentrated regiment barrage by 1st Self-Propelled Artillery Regiment. 'B' Squadron was not so fortunate when it ran into tanks of Poona Horse that were heading for Phillaurah, and the Squadron Commander Z.U. Abbasi, while attempting to manoeuvre with his squadron, was martyred.¹³ Within 15 minutes Z.U.'s number two, Hussain Shah, the son of Pir Abdullah Shah, was also martyred. With both officers out of action, the momentum stalled, but the man that took over, Amir Gulistan was keen not to lose advantage. Together with Shamim Manto he took charge of the squadrons and pressed forward. Deflected left by this encounter, the advance of 'B' Squadron now commanded by Manto closed onto 'A' Squadron, and both inclined towards Bhagowal where they struck 62nd Cavalry. The Shermans of 62nd Cavalry, which had been up-gunned with the French 75mm gun, saw the Pattons bearing down on them, and after losing a few tanks whose guns were still in their travel locks, beat a hasty retreat to a firm base. The commanding officer of the Guides subsequently rallied his squadrons south of Bhagowal. The regiment lost six M48s, but it was a valiant effort in which they engaged elements of three Indian regiments forcing two to withdraw. Unfortunately, by the time the attack was launched, Phillaurah had already fallen. The pressure and intensity of the Indian attack on this day forced some elements of the division to recoil and – to check any panic – the GOC put on his full uniform, peak cap, collar tabs and all, and drove into the battle zone with his jeep displaying the stars and flag of the division commander. As expected, there was a salutary effect wherever he appeared.

A black and white portrait of a man in a military uniform. He is wearing a dark jacket with a high collar. On his right shoulder, there are three stars and the letters "TAC". On his left chest, there is a large, ornate medal or decoration. The background is a mottled grey.

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Battle scars on the railway station of Chawinda, which lay in the path of the Indian armour heading to cut the road to Pasrur.



Centurion tanks of Hodson's Horse, Indian Army, as seen in the Sialkot Sector in March 1966, after the cease-fire.

a day later, on 15 September, came the headquarters of 1st Armoured Division along with its reconnaissance regiment — 12th Cavalry — less a squadron. Immediately on its arrival, the division was tasked to launch a counterattack that would have retaken Phillaurah from the east and encircle the Indian 1st Armoured Division. Unfortunately,

the attack was called off by Headquarters I Corps probably due to the impact of the events that occurred on 15 September, and the fear that the Indians may achieve a breakthrough in the area of Badiana/Chawinda.

The plan of attack by the Indian armoured division to capture Chawinda was in essence a repeat of Phillaurah with a flanking attack from the west by the armoured brigade followed up with an attack by the lorried brigade to dislodge 24 Brigade. The first battle for Chawinda commenced at dawn of 14 September. Hodson's Horse set off from Char in an outflanking manoeuvre of 15km from the west that was aimed at ultimately cutting the Chawinda–Pasrur road, north of the railway track that generally defined the line of defence of the

taskforce, it was engaged first by the right forward squadron of 22nd Cavalry, and then by a squadron of the Guides. In spite of a large open gap of three kilometres between the Guides and Chawinda that could have been driven through by Hodson's Horse at this early stage, and further exploited by two Centurion regiments, Hodson's Horse was ordered not to proceed beyond the railway line, and moved no further for the whole day. The attack by the Indian armour to close up with Chawinda and clear the ground for a follow up attack by the lorried brigade was launched at midday in an inner hook by Poona Horse. The brunt was borne by 3rd Frontier Force and a troop of 33rd TDU sent in support. The troop managed to destroy three tanks but lost two in the process. The battle raged through the afternoon, but by 18:00, Poona Horse broke contact. During the afternoon, a squadron of the Guides sidestepped right to close the gap towards Chawinda, and its 11th Cavalry squadron was positioned behind to provide depth. Since this flank of the taskforce was weak, the armoured division requested reinforcements, which arrived in the shape of the tactical headquarters of 3rd Armoured Brigade and 19th Lancers. Unfortunately, the corps headquarters still retained control on the employment of the brigade. By the next morning, the squadrons of 19th Lancers were deployed in the depth and the front of the taskforce was held with the same troops as the previous day with the two squadrons of the Guides now merged into one. To further reinforce this flank, a squadron of 22nd Cavalry, that had been extricated from Zafarwal, was grouped with 14th Frontier Force, which was holding Badiana.

The Indians tried to consolidate their gains on 15 September and some fierce engagements took place around Chawinda in which 25th Cavalry with many of its tanks repaired by the workshops of 1st Armoured Division, was back in action. Farrukh Khan who was MTO of 25th Cavalry during the war recollected that the armoured workshop company of the armoured division did a commendable job of making their M47s/M48s combat worthy after the action in Phillaurah. One of the most successful engagements was by a squadron of 22nd Cavalry, which blocked an advance by 16th Cavalry to close up to the railway line in the evening. 16th Cavalry lost four tanks almost immediately, received a pounding from the medium artillery and when it withdrew,

was strafed by eight aircraft. Some of the tanks were hit by the forward artillery observer who commanded his M48 like an experienced tank commander. Unfortunately, Qurban Ali, a squadron commander of 22nd Cavalry, was badly burnt when his tank was hit. That night, 14th Frontier Force was relieved at Badiana by a battalion of 14th Para Brigade, and its companies were placed under command of the tank regiments of the taskforce to ensure that they could hold ground at night, and not have to withdraw to leaguer for replenishment. This ended the first battle of Chawinda. The Indian armoured division was still north of the railway line running from Chawinda to Sialkot, and 6th Armoured Division had recovered its balance.

Second Battle of Chawinda

The second battle for Chawinda formed part of a general offensive by the Indian I Corps with the armoured division and two infantry divisions. Within the sector of 6th Armoured Division, its aim was to capture the pivots of Badiana, Chawinda, and Zafarwal, and exploit 6km ahead up to Pasrur and the Marala-Ravi Link Canal. The Indian armoured division was to isolate Chawinda by again manoeuvring from the west and cutting the Chawinda-Pasrur road, while 6th Mountain Division was to initially capture villages in the vicinity of the town, and use them as a base for the attack on Chawinda. The first phase of the attack by the Indian 1st Armoured Brigade was launched on 16 September with a simultaneous advance by Hodson's Horse to secure the line Fatehpur-Sodreke, and Poona Horse heading to capture Jassoran. The advance by Hodson's Horse was contested by the Guides with two depleted squadrons — the second squadron was of 11th Cavalry placed under its command. Under repeated attacks, it finally conceded the Badiana-Chawinda road by the evening, but in the whole day's intense battle allowed Hodson's Horse to advance only three kilometres. Having suffered considerable attrition, the Guides was taken out of battle, and 19th Lancers now held the space between Badiana and Pasrur. Hodson's Horse was expected to head towards Badiana and 19th Lancers decided to strike at its southern flank with two squadrons, one with only two troops commanded by Major Masud Akhtar Kiani. However, the tanks of Hodson's Horse took a heavy toll and despite a dashing charge, the attack of 19th Lancers was checked with both sides suffering casualties. To bring 19th Lancers back to strength, that night ten remaining serviceable M48s of the Guide were grouped with the regiment as an additional squadron.

Further right, the attack by Poona Horse with an infantry battalion struck a company of 3rd Frontier Force, which was supported by a troop of 33rd TDU. The Pakistani tanks held their fire because of two incidences of fratricide on 15 September involving 19th Lancers and paid the price. Under pressure 3rd Frontier Force wilted and Jassoran fell. 8th Garwal Rifles moved up to support Poona Horse for the second phase — the capture of Butur Dograndi. The Garwalis suffered terrible casualties from severe artillery shelling, both in their approach march, and in the attack on the objective. It only secured a portion of the village, and was joined by two squadrons of Poona Horse. Less than two kilometres ahead were the artillery gun positions, which were being showered with machinegun fire. A call of 'Tank Alert' was sounded and preparations made to receive this menace, but the guns continued to deliver the fire support that was crucial at this stage of the battle. However, before Poona Horse could consolidate, it was struck in the flank by nine tanks of 'C' Squadron of 25th Cavalry. Under this severe fire, which included recoilless rifles, Cobra ATGMs and heavy artillery concentrations, Poona Horse was forced to withdraw back to Jassoran.

With the withdrawal of 3rd Frontier Force and the whole left flank exposed to the Indian main attack, the situation at Chawinda was



Major-General Abrar Hussain, GOC 6th Armoured Division, seen being awarded the Hilal-e-Jurat by the C-in-C, General Musa.

desperate. All that lay between the Indian armour and its objective was a thin line of the remnants of 'C' Squadron 25th Cavalry commanded by Raza who had returned to the regiment after recovering from his injury at Phillaurah. Except for the two days he was in hospital, he was in the frontline all through the war. His gallantry was rewarded with a Sitara-e-Jurat. There was a depleted Sherman squadron of 33rd TDU to support him, and further back, the Guides squadron of M36B2s which was protecting the gun areas. The Gharwalis and Poona Horse again advanced back into Butur Dograndi from where the Indian tanks were shooting up vehicles moving on the road leading from Chawinda to Pasrur. The CO of 25th Cavalry reinforced Raza with the two tanks of the regiment headquarters, and anxiously waited for a troop from Affendi's squadron on the right. The moment it arrived, he attacked Poona Horse with all that he had. Poona Horse was driven out of Butur Dograndi for the last time and limped back to leaguer at Jassoran. The brave commanding officer of Poona Horse, Ardisher Tarapore was mortally wounded by artillery, and his tank destroyed. From this tank 25th Cavalry recovered a copy of an Operational Order issued by the headquarters of the Indian 1st Armoured Brigade on 13 September which stated that, 'The enemy morale is low and their command and control is NOT too effective'. It was wrong on both accounts. Interestingly, the terminology used in the Operation Order reflected that of the British Army during the Second World War e.g. 4 HORSE will 'shoot up' enemy armour that might be escaping from CHAWINDA; 16 CAVALRY will 'bounce' Badiana if unoccupied by enemy.

The Black Elephant Division had not succeeded in isolating Chawinda, and the initiative was shifting in favour of 6th Armoured Division. The next day the Garhwali battalion holding Butur Dograndi was attacked and in spite of its determined resistance, forced to withdraw after it was pounded by 84 guns of the IV Corps Artillery. On 17 September, the headquarters of 4th Armoured Brigade, which had replaced an earlier taskforce headquarters formed under Col Wajahat, was made responsible for the defence of Badiana with 19th Lancers, 22nd Cavalry and 14th Frontier Force. Previously, this portion of the battlefield could only be supported by 1st (SP) Artillery Regiment firing at extreme ranges but the problem was

overcome on 16 September with the deployment of 15th and 16th (SP) Artillery Regiments from 3rd and 4th Armoured Brigades. The brigade was tasked to clear the Indian salient between Badiana and Chawinda south of the railway line. On 18 September, 19th Lancers with a company of infantry and supported by a squadron of 22nd Cavalry, launched a two-pronged attack towards Sodreka and a wider outflanking manoeuvre that appeared north of Butur Dograndi for an attack on Jassoran. Launched at 15:00 with good artillery support, the attack was successful and six Centurions and ten RRs were destroyed.

Under pressure from the HQ Western Command, the Indian I Corps continued with the attack by 6th Mountain Division to capture Chawinda. To support this attack, apart from its own artillery the division was also allocated the entire corps artillery as well as that of the armoured division. The attack was launched on the night of 18–19 September, and after some desperate fighting, the Indians managed to close up to the railway line on the west of Chawinda. However as dawn broke, they were in the open and two Indian brigades caught the entire fury of the tanks of 25th Cavalry, the infantry in defence and the corps artillery, which the Indians had made no effort to neutralise. The fate of 6th Mountain Division was unknown to Hodson's Horse. As per the plan, it advanced on the morning of 19 September to protect the right flank of the division, and presented an opportunity to 19th Lancers to extract retribution for the casualties it had suffered from the Centurions of Hodson's Horse three days earlier. Catching Hodson's Horse from a flank, it rapidly destroyed eight Centurions and the regiment limped back. Two hours later the Indian Air Force made one of its rare showings over the battle zone, and eight aircraft attacked 19th Lancers. The only tank hit was of Major Masud Akhtar Kiani, who tragically succumbed to his wounds, and was awarded with a posthumous Sitara-e-Jurat. Through the day, 19th Lancers with infantry support, eliminated the small salient made by the Indian attack, but the next morning marked its most satisfying accomplishment. While it was advancing to secure the railway line, it surprised a squadron of Hodson's Horse, which was breaking leaguer. When its leading tanks opened up with all their weapons, the squadron of Hodson's Horse abandoned their tanks and 19th Lancers captured six brand new Centurions with only 50 – 60 km on their milometers.

On the morning of 20 September, 6th Armoured Division held the same position as on the morning of the first battle of Chawinda seven days earlier. The opportunity that was handed on a plate to the Indian

armoured division, with the untimely changeover at Phillaurah was wasted. The stand by 11th Cavalry at Phillaurah and the charge by the Guides on 11 September enabled 6th Armoured Division to rebalance itself.

Conclusions

It stands to reason that if the march of the Indian armoured division had not been checked on that fateful day of 11 September 1965, the Indians had a fair chance of reaching Pasrur, and the bloody battle around Chawinda need never have been fought by them.

This has been paraphrased from the Official History of the Indian Armed Forces in Second World War and its conclusion on the valiant defence of Mekili by the 3rd Indian Motor Brigade. The battle against the Indian armoured division from the moment it reached Phillaurah on 8 September, had a great deal of fluidity. In many ways it bore the characteristics of a mobile defence: an aggressive posture by the armour to deny space; counter-manoevres and quick counter-attacks by tanks to unbalance the Indians; regrouping of regiments to regain balance; defending pivots; heavy concentrations of fire by artillery deployed well forward; protecting the gun areas with tanks; effective air support; and employing assets like army aviation to provide information and timely warning. Alongside armour, 6th Armoured Division used every available component to its fullest during the war including Air OP, motorised infantry, reconnaissance troops, the artillery, ground air support missions, etc. It was the type of battle that only an armoured division knows how to execute, and has the resources to fight, and it proved its relevance in a scenario of a war between Pakistan and India then and in the future. In this intense battle where fortunes swung in both directions, if one man stands out for his resilience, it is the GOC of 6th Armoured Division, Major General Abrar Hussain. He entered the 1965 War as an untried dark horse with no experience of armour and emerged out of it with flying colours. He was awarded a well-deserved Hilal-e-Jurat, and the formation he commanded was awarded with the title of Men of Steel. The epithet was the creation of a journalist, who wrote an evocative description of the action fought by 25th Cavalry that appeared in the Sunday Edition of the *Pakistan Times*. The C-in-C, General Musa, subsequently used it to pay tribute to the armoured division.

CHAPTER 5

RE-EQUIPMENT, 1965-1971

The nature of equipment inducted into the Armoured Corps over the decades, had a great deal to do with Pakistan's international politics. Like aircraft and ships, tanks are a major weapon system, and their acquisition is often governed by the relationship between the supplier nation and the recipient. The 1950s and 1960s was the era of American tanks, but as Pakistan's alliance shifted from the West to the East, so did the mainstay of its tank force. The 1965 War was a watershed in the equipment of the Pakistan Armoured Corps: the Americans had turned off the tap and Field Marshal Ayub Khan was deeply concerned about finding new sources for military arms and equipment. A number of options for inducting tanks of US and European origin were explored, but with little success. Ultimately, it was only China and for a short period of time the Soviets who were willing to provide

the urgently required hardware. From the late 1960s onwards, the Armoured Corps progressively relied on the Chinese, initially for the supply of tanks, and subsequently for their upgrade and manufacture. By 1971, ten regiments in both the armoured divisions had Chinese-manufactured Type-59s – a local variant of the Soviet-made T-54 – colloquially known as the T-59 in the Pakistan Armoured Corps. The eleventh had Soviet-made T-55s.

Chinese and a Sprinkling of Soviet Military Assistance

Following the 1965 War, the state of equipment in the Armoured Corps was of deep concern to the military leadership. The fleet of Patton tanks had taken a hard knock and after carrying out a regrouping, three armoured regiments that had fought the war with M47/48s,



Supplied by the US in 1954 through the Lend-Lease Program, the M4/76 Shermans provided sterling service in the 1965 Pakistan-India War during which they outmatched the Indian Shermans of Second World War vintage equipped with 75mm guns. During the 1971 War, out of the 25 armoured regiments fielded by the Pakistan Army, six operated Shermans. However, they were no match for the T-54/55 with its 100mm gun or the Vickers Vijayanta with the 105mm gun fielded by the Indian Army. Even as late as 1980, the tank regiment of 10th Infantry Division (insignia shown inset) was still equipped with this relic of the Second World War. (Artwork by David Bocquelet)



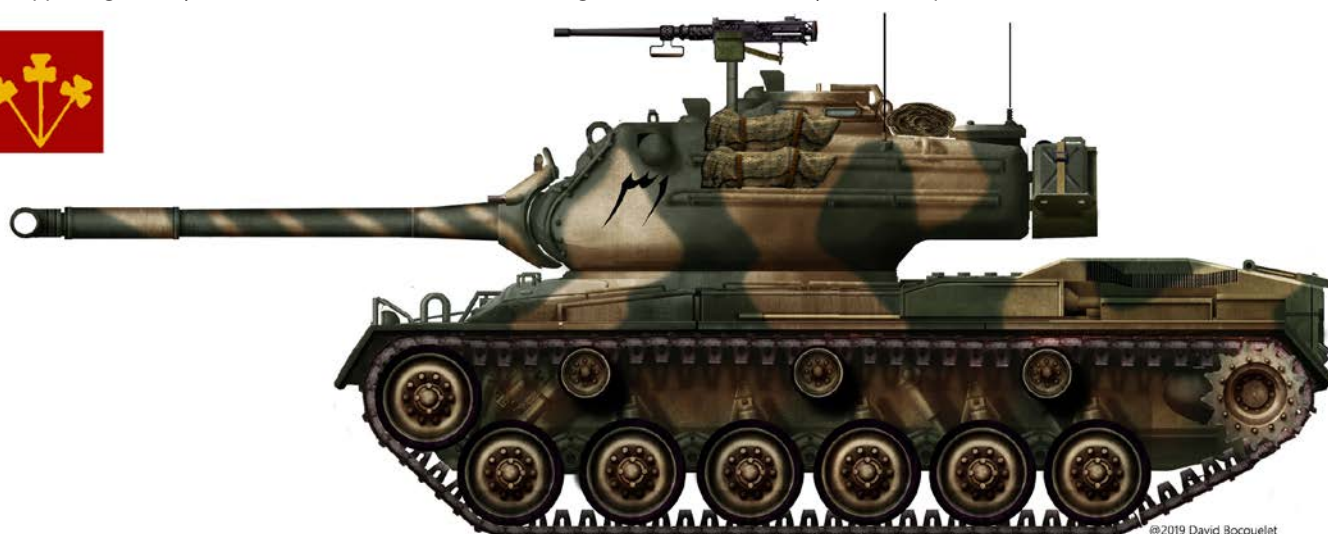
Along with the M48s, the M47s provided the backbone to the Pakistan Armoured Corps in the 1965 India-Pakistan War. However, the firepower of its 90mm gun was outmatched by the 20-pdr guns of the Indian Centurion tanks firing APDS ammunition. Due to fairly heavy casualties of the M47 during the 1965 War and a US embargo after the conflict, in the 1971 Pakistan-India War, only three out of 25 armoured regiments fielded by the Pakistan Army were equipped with the M47s. All these regiments served with the infantry divisions and the insignia of one of them (15th Division) is shown inset. Afterwards, they were replaced by T-59s, and the M47s were subsequently upgraded to M47Ms (see below). (Artwork by David Bocquelet)



Under the Military Assistance Program initiated in 1956, the US supplied Pakistan with 200 M48s that largely equipped five regiments of an armoured division during the 1965 Pakistan-India War. These regiments saw heavy combat and by the 1971 Pakistan-India War, for reasons similar to those for the M47, Pakistan was left with only two regiments of M48s that equipped an independent armoured brigade. Due to poor tactical handling during a major counterattack by the brigade, the M48 suffered very heavy casualties when engaged by Indian T54 tanks. The surviving M48s continued in service until they were replaced by T-59s during the 1970s. (Artwork by David Bocquelet)



The first T-59s were delivered to Pakistan after the 1965 War. It was a Chinese copy of the T-54 but with a number of improvements including a vertical gun stabilizer, an improved telescopic sight, driver's infrared headlight, a multi-stage engine air filter, radiator controls, electrical oil pump, automatic fire extinguishers and extra fuel tanks. The ergonomics of the T-59 were poor, but in certain critical areas they were superior to the M47/48 supplied by the US, including a robust Christie suspension, 280km cruising range, ballistic design of the turret with better armour protection, a low silhouette and, compared to the 90mm gun, a greater kinetic energy of its 100mm gun. Apart from the armoured divisions it was also issued to the armoured regiments of the supporting infantry divisions such as 7th Division whose insignia is shown. (Artwork by David Bocquelet)



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The M47s left on the inventory of the Pakistan Army after the 1971 War were upgraded in Iran to the M47M with the fire control system of the M60A1, a Continental AVDS-1790-2A supercharged diesel engine and an improved CD-860-2A transmission. The large signature of the diesel smoke was suppressed by venting the exhaust through rear louvers that mixed it with the dust thrown up by the tank. The co-driver was replaced by an additional rack for 22 rounds of main gun ammunition. Its all-steel tracks were better suited to the rocky terrain of Central Iran and a tight turn in softer terrain broke the half-shafts connecting the sprocket to the final drive. The emblem is of 8th Division, one of the infantry formations that the M47M was primarily issued to. (Artwork by David Bocquelet)



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Under a military assistance program that was initiated after the Soviet occupation of Afghanistan in 1979, the US supplied 345 M48A5s. They were practically indistinguishable from the original model of the M60 and featured the same Continental AVDS-1790-2A supercharged diesel engine and an improved CD-860-2A transmission. They also had the same fire control system and the 105mm L7 gun. The US also supplied a substantial quantity of M833 APFSDS-T DU (Depleted Uranium) ammunition that could defeat the Indian T-72s. The M48A5s equipped the armoured brigades and as well as the regiments of the infantry divisions deployed in the desert sector. The insignia is of 18th Infantry Division. (Artwork by David Bocquelet)



In 1996, Pakistan signed a contract for 320 T-80UDs in two variants: the standard Ob'yekt 478B and export Ob'yekt 478BE. They were powered by the 6TD1, 1,000hp diesel engine designed by the Morozov Bureau. With a horizontal placement of 6 cylinders and 12 opposed pistons, the 6TD1 was light and compact, and its two-stroke cycles produced a high torque. 35 standard variants were supplied from Ukrainian Army stocks in 1997 for conversion. The Malyshev plant had to replace 70 percent of the components that Russia refused to supply. Since Ukraine had already started designing a better variant – the T-84, its components along with other improvements were used to complete the order by 2002. It was Pakistan's most modern tank and has remained in service with 1st Armoured Division. (Artwork by David Bocquelet)



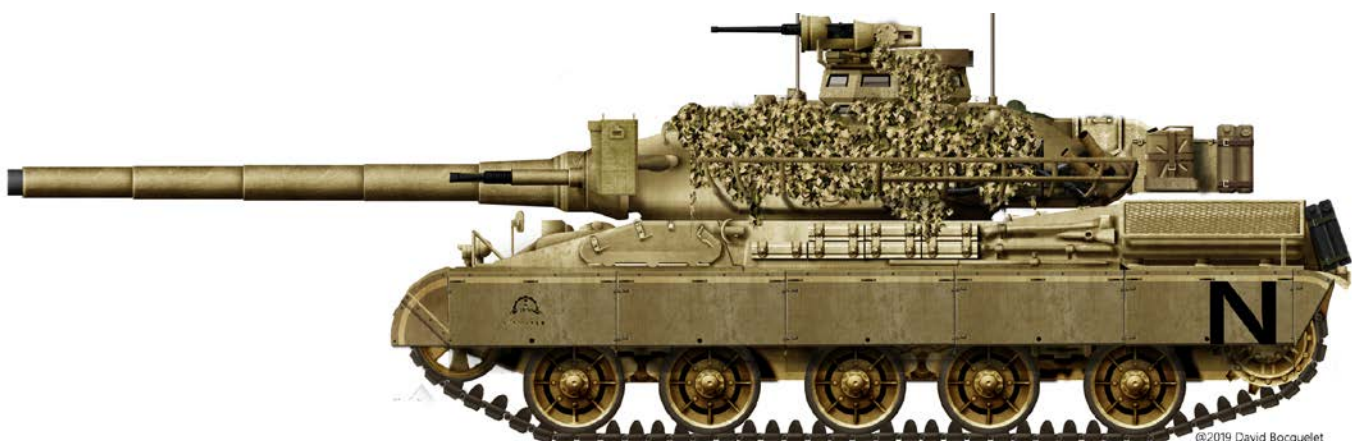
The T-85 was developed by the Chinese North Industries Group Corporation (NORINCO) as a counter to the Soviet T-72. The T-85IAP version (P standing for Pakistan), was armed with a 125mm smoothbore gun fed by an automatic loader based on the T-72 design. It also had an upgraded fire-control system with a laser rangefinder, on-board computer and wind sensor. It was powered by the same V12 engine as the T-59, upgraded with a super-charger to develop 730hp. Pakistan signed a contract in 1990 to purchase 200 T-85IAPs and another contract in 1994 for assembling/building 75. The emblem is of 25th Mechanised Division, a desert formation equipped with the T-85IAP. (Artwork by David Bocquelet)



Al-Zarrar was the fourth phase in the progressive upgrade of the T-59 which had a good 'stretch potential' allowing upgrades at far less a cost than a modern MBT. The suspension was reinforced and rubber tracks with top rollers were added. The turret was modified to incorporate a 125mm gun with its fire control system that consisted of an image stabiliser, laser rangefinder, and a ballistic computer supported by a thermal imager. Though the weight increased to 40 tons, because of a 730hp turbo-charged engine, it had a good power-to-weight ratio of 18.3hp/ton. The tactical insignia is of 6th Armoured Division which received the first batch of the Al-Zarrar in 2004. (Artwork by David Bocquelet)



The T-69IIMP marked the third phase in the upgrade of the T-59. T-59M incorporated 28 improvements/modifications including a 105mm gun developed by China. The T-59MII incorporated 22 more improvements/modifications including a 580 horsepower engine, bi-axis stabilisation, an integrated computerised fire control system, hydraulic assisted steering and clutch, and a global positioning system. The T-69IIMP was a new manufacture that marked a major step towards developing a manufacturing capability for a new MBT. Its 105mm gun, as well as the hull and turret were manufactured in Pakistan. A regiment of the Pakistan Army with T-69IIMP was deployed on a UN mission in Slovenia. (Artwork by David Bocquelet)



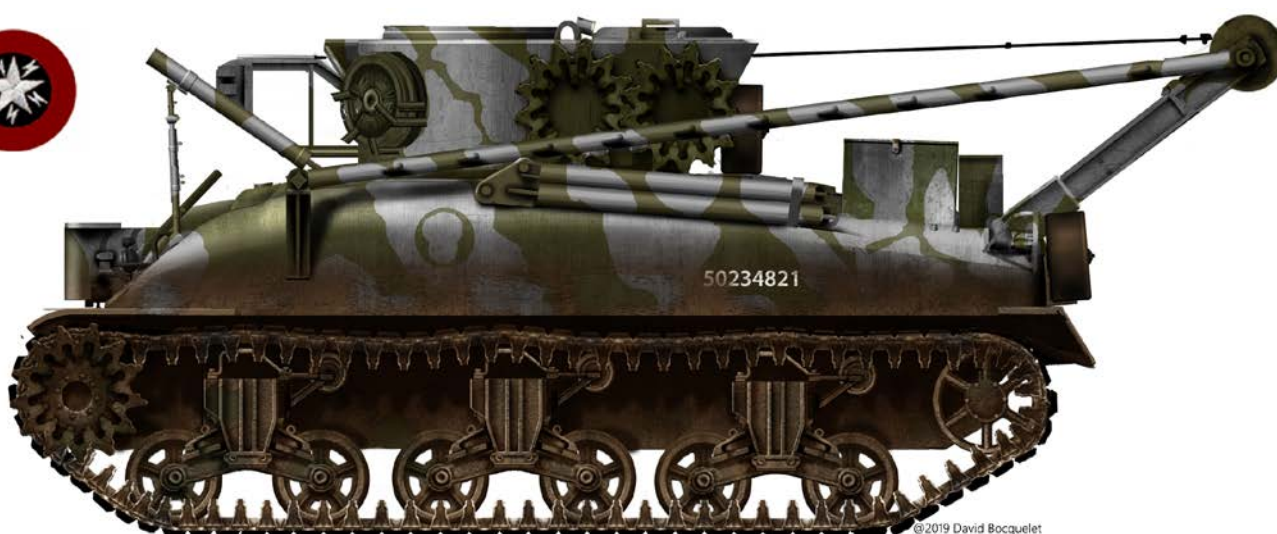
From 1982-92, a Pakistani armoured brigade based in Tabuk in Saudi Arabia was equipped with 190 AMX-30S tanks manufactured by GIAT Industries. Its design focused on firepower and mobility rather than protection, and the tank was assessed as the worst protected MBT of its time. Because of its light weight of 36 tons, it had a top road speed of 65km/h, but its manual gearbox (five forward gears and five reverse) was troublesome and caused mechanical issues. Though modified for operations in the desert, the Pakistani crews also found that the AMX-30S lacked the necessary power, cooling, and filtration. It was not an easy tank to operate, but the Pakistani tank and repair crews became quite adept at maintaining it and repairing most of the running faults. (Artwork by David Bocquelet)



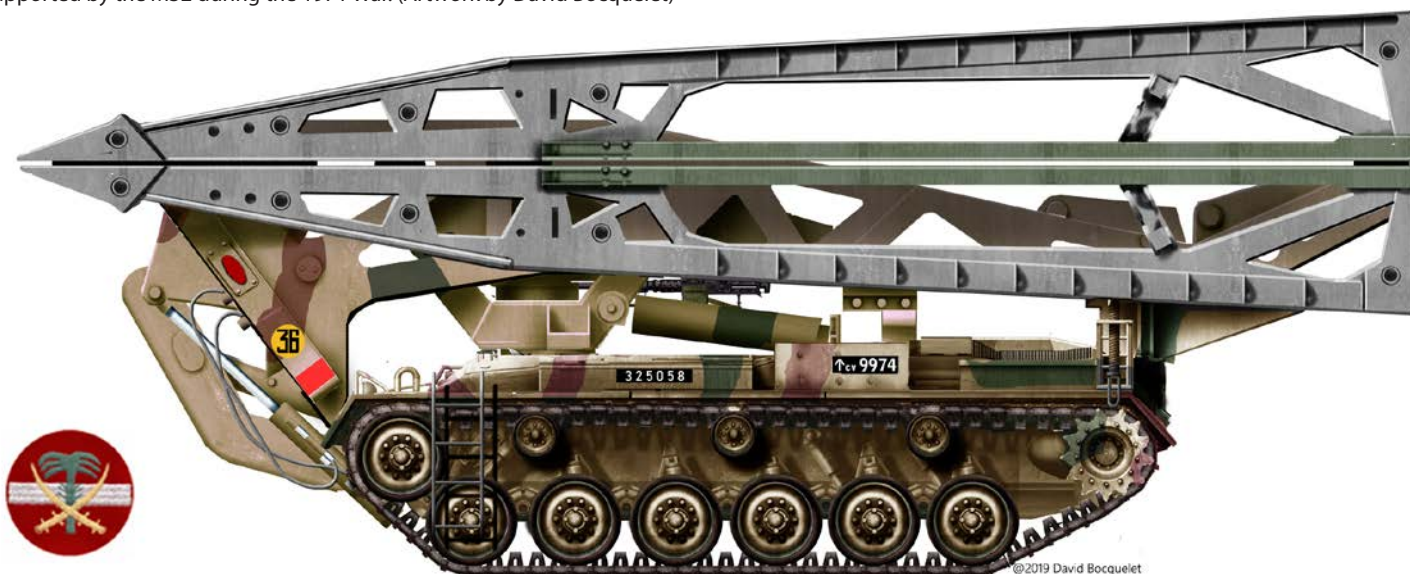
The Al-Khalid was a co-development program with NORINCO that adopted a time-limited, scope-restricted, and budget conscious approach and cost only \$20 million. It is equipped with a 125mm smoothbore gun manufactured in Pakistan and fires the Naiza DU round with a penetration of 570 mm RHA at 2,000m. It is powered by the supercharged 6TD-2 liquid-cooled diesel engine with a high performance cooling and air filtration system. It weighs 46 tonnes with a power-to-weight ratio of 27 hp/tonne and a maximum speed of 70 km/h. The Al-Khalid has a number of advanced features such as a laser threat sensor, battlefield management system, a hunter-killer capability and automatic target-tracking system. It is fielded by the desert formations including 25th Mechanised Division whose insignia is displayed. (Artwork by David Bocquelet)



A large number of M40 106mm recoilless rifles were supplied during the US Military Assistance Program of 1956-64 as a replacement for the Second World War vintage antitank guns. During both the 1965 and 1971 Pakistan-India Wars, the 106mm RR was the principal infantry anti-armour weapon and also issued to the reconnaissance and support battalions as well as the reconnaissance troops of the armoured regiments, a role for which it was not suited. Its weight of 200kg made the jeep unstable and its large front and back blast could not be concealed. The penetration power of its large-calibre HEAT round was excellent, but it was inaccurate above 1,000m and the weapon was ultimately replaced by ATGMs. The insignia is of 33rd Infantry Division, one of the many formations equipped with the 106mm RR. (Artwork by David Bocquelet)



The US M32 Armoured Recovery Vehicles that were purchased under the Lend-Lease Program were based on a Sherman M4 chassis. They had a 27,000kg winch mounted behind the driver and operated by a powered take-off from the drive shaft. The winch could be attached to a load in the front or rear, over the crane or direct. The crane was mounted on the front of the hull and folded back for travel, but its operations were limited as it could neither swivel nor extend forward or backwards with a load. The version with the Pakistan Armoured Corps had an 81mm mortar mounted on the hull front, to lay down obscuring smoke while carrying out recovery in the combat area. The insignia is of 23rd Infantry Division whose Sherman regiment was supported by the M32 during the 1971 War. (Artwork by David Bocquelet)



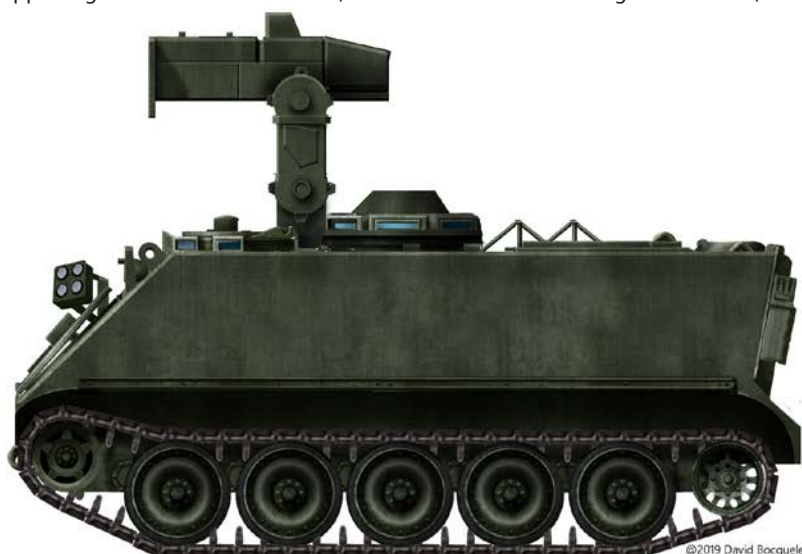
To enhance the mobility of the armoured force, the Military Vehicle Research and Development Centre developed an AVLB in the 1980s. The contract for fabricating and installing it on the chassis of the M47M was awarded to the Railway Workshop in Lahore. The folding scissor-type bridge had a clear span of 20.3m and is 4m in width. It is an aluminium alloy structure with 13 hydraulic cylinders actuated by hydraulic motors driven by the main engine. The AVLB has a crew of two who can launch the bridge in about 3 minutes. With the complete system including the hull of the M47M weighing 54 tons, the cross-country mobility is restricted and it presents a very large target. The insignia is of 5 Corps whose bridging unit was one of the many equipped with the AVLB. (Artwork by David Bocquelet)



The Baktar Shikan is a second-generation ATGM which is a variant of the Chinese HJ-8 manufactured under license by Pakistan since the late 1990s. The system is man-portable by disassembling it into four sub-assemblies, each weighing not more than 25kg. With a powerful anti-jamming capability, a range of 3,000m, a hit probability of over 90 percent and a tandem warhead that can penetrate 600mm of RHA, it provides a potent defence against armoured targets. The weapon is mounted on a Land Rover Defender assembled in Pakistan and is in service with infantry battalions and the ATGM battalions of the infantry divisions, including 17th Division whose insignia is shown. (Artwork by David Bocquelet)



Following the Soviet occupation of Afghanistan, the US provided a facility to part manufacture the M113A2 APC as well as upgrade large numbers of basic M113s inducted from 1956 onwards. The gasoline engine was replaced with a 215 hp 6V-53 Detroit Diesel engine for better fuel economy and to reduce the fire hazard. The engine cooling was improved, higher-strength torsion bars increased ground clearance and shock absorbers reduced effects of ground strikes. Armoured fuel tanks mounted externally on both sides of the rear ramp, freed up 0.45m of internal space. However, the weight increased to 11,740kg and the APC was no longer amphibious. A TOW ATGM launcher was installed in the antitank variant of the A2Ps (P for Pakistan) and equipped infantry divisions supporting the armoured formations, like 35th Division whose insignia is shown. (Artwork by David Bocquelet)



Two battalions of the M901 Improved TOW Vehicle were provided to the Pakistan Army in 1985. The system is capable of firing two missiles without reloading and stows ten TOW missiles internally. The turret launcher is capable of day/night acquisition and tracking of targets, and covers 360 degrees in azimuth and +35 to -30 degrees in elevation. Reloading is performed under armour protection by tilting the launching apparatus back enabling the crew to reach the turret through the roof hatch. The targeting head is at the end of a pivoting arm which raises the launcher assembly for firing. Erecting the turret takes several seconds and the M901 is unable to move while the turret is in the firing position. The illustration shows the insignia of II Corps whose ATGM battalion is equipped with the ITV. (Artwork by David Bocquelet)



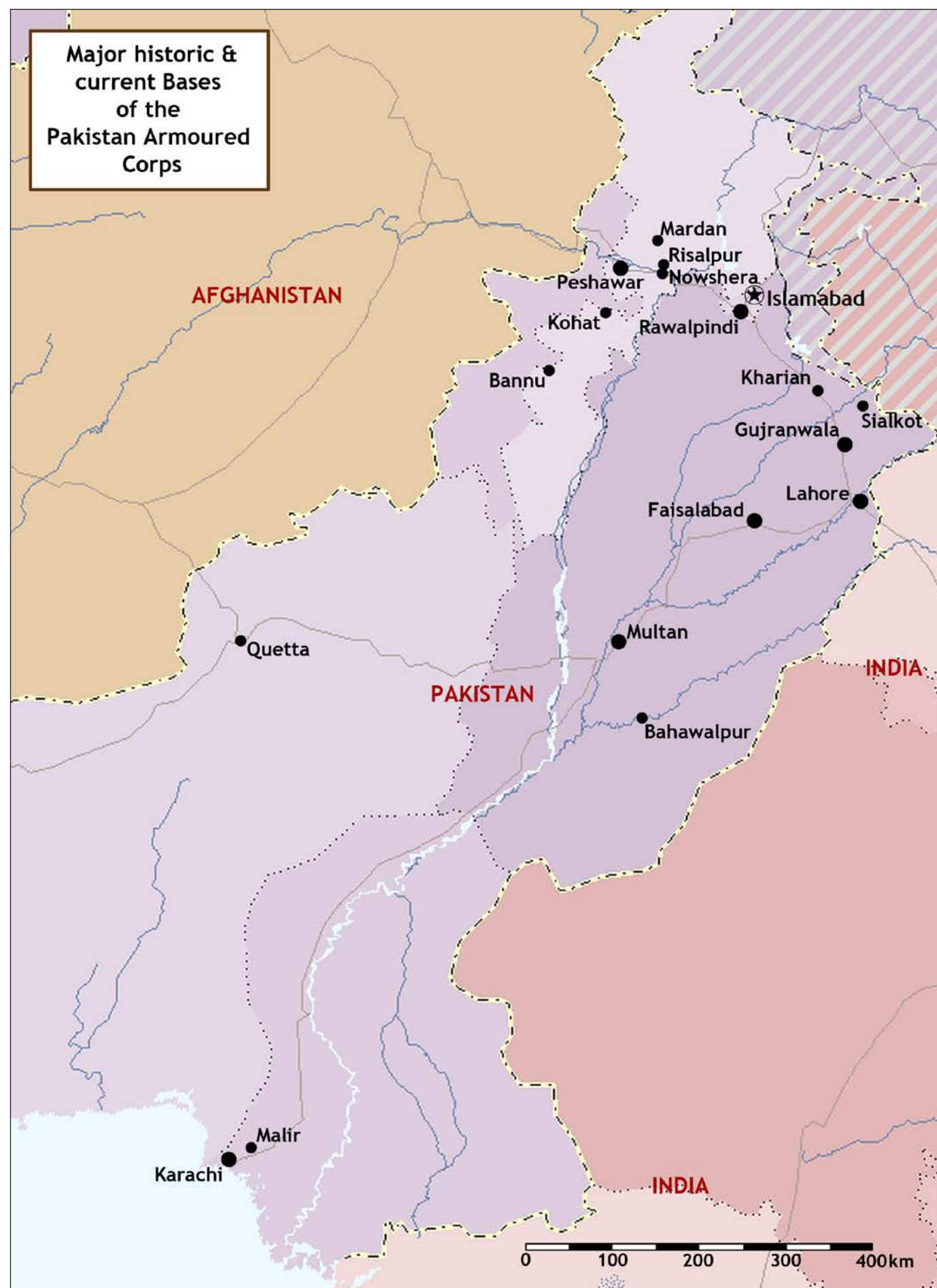
The M110A2 SP 203mm Howitzer is fielded by the Pakistan Army corps artillery brigades like that of 2 Corps. It is the largest self-propelled artillery in service, weighs over 28 tons, and is operated by a crew of 13. Its standard projectile has a maximum range of 25,000 meters and up to 30,000 meters when firing rocket-assisted projectiles. A maximum rate of fire is three rounds per two minutes and one round per two minutes with sustained fire. It features a hydraulically operated rammer to chamber the 90kg projectile, but a better rate of fire could be obtained through a hand-operated manual rammer as the barrel was not required to be lowered nearly as much as with the hydraulic rammer. (Artwork by David Bocquelet)



Over 500 M109A5 155mm SP Howitzers are in service with the Pakistan Army with all older variants upgraded to the A5 standard. The upgrade consisted of a 39-calibre 155 mm M284 cannon in an M182 mount, giving the A5 a maximum range of 22,000 meters with standard projectiles and 30,000 meters with Rocket Assisted Projectiles. The vehicle can carry 36 complete rounds of ammunition and has a 440 hp engine instead of the standard 405 hp engine. Improvements to the loading system resulted in an increase of the rate of fire to a maximum of 8 rds/min and a sustained rate of four rounds per minute. The artillery brigade of 1 Corps (see insignia) was one of the first formation equipped with the M109A5. (Artwork by David Bocquelet)



The effective employment of T54s with mine rollers by the Indians in the 1971 War energized the Pakistan Army to develop its own system based on an assembly captured during the Battle of Chhamb. After a great deal of experimentation and trials on prototypes developed by the Railway Workshop at Lahore as well as private industries, the army fielded a roller system that was initially installed on a troop of tanks in each of the armoured regiments. However, it not only reduced the number of tanks that a regiment could effectively employ in combat, the underpowered T-59 tank overheated when operating this heavy assembly. A more viable solution was installing the assemblies on the chassis of the T-59 and issued to combat engineer battalions of 6th Armoured Division (insignia shown) and other mechanized formations. (Artwork by David Bocquelet)



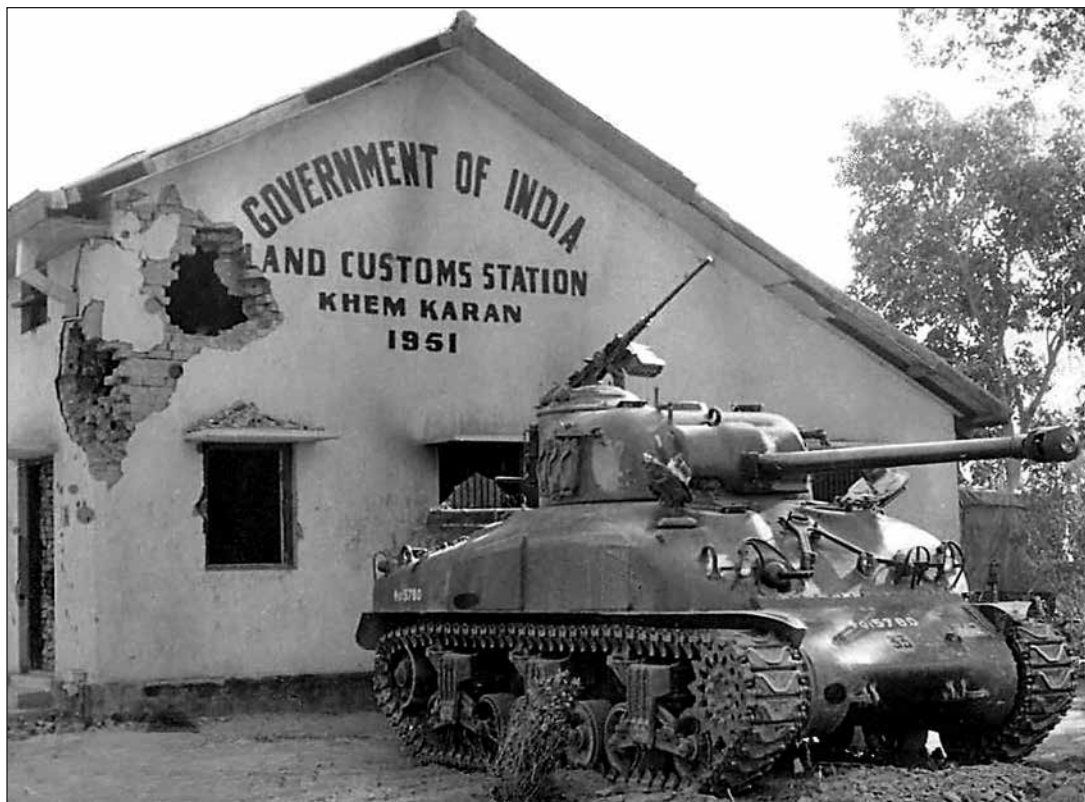
were issued Shermans from the General Staff Reserve. 11th Cavalry was issued the older version armed with the 75mm gun. To make it appear to a foe that they were armed with the longer 76mm guns, wooden logs were tied to the barrels. During a demonstration, watching the tanks from a distance and not aware of the deception measure, the spectators were astonished to see the barrels of some of the tanks falling off.¹ There was a desire to obtain more M47/48s since these were still the backbone of the tank force. However, there was also an effort to diversify as well as upgrade the fleet. Following a high-level meeting in January 1968 attended by the defence minister, the C-in-C, and the defence and foreign secretaries, Field Marshal Ayub Khan formulated his strategy as follows:

The answers were going on buying as many second-hand American tanks in Europe as possible, and put new diesel engines in them and keep on agitating with the Russians for advance T series tanks. Don't underrate the Chinese promise, and finally, put new diesel engines in as many old Shermans as possible. All these measures should give us all the population we need. Meanwhile in conjunction with Volkov, the possibility of manufacturing light tanks within the country.²

In 1967, while visiting France, Ayub Khan requested 200 M47s from President de Gaulle which the French were replacing with the AMX-30.³ However, the US neither allowed this transfer nor that of the Pattons that Pakistan was interested in acquiring from Belgium.⁴ GHQ evaluated tanks manufactured in Europe, but the French AMX-30 was too expensive and the Germans were not prepared to sell the Leopard for political reasons.⁵ It must have come as a great relief to the Army and the Armoured Corps when the Chinese promise materialised.

The request for Chinese military assistance predated the 1965 War. In 1964, the Chinese had agreed to supply 80 T-59 Tanks and the first consignment made its debut just after the war at the Pakistan Day Parade at Rawalpindi, on 23 March 1966. The T-59 was a copy of the Soviet T-54A, which represented a turning point in tank design. The model which matured during the Second World War, called for three classes of tanks, based on their role, armament, and protection – light, medium, and heavy.

In the post war era, the Western Block continued following the same path, fielding mass-produced medium tanks in the range of 40–45 tons and a high-end tank which was 10–20 tons heavier. The Soviets took a different path by merging the T-34 medium tank and the heavy Joseph Stalin-10 (T-10). In a stroke, it rendered most of NATO's tanks conceptually obsolete, and changed the dynamics of the industrial strategy for tank production. Instead of a high-low mix



Due to losses during the 1965 War, the Pakistani Armoured Corps had to use old M4A1 Shermans to replace Pattons of 4th Cavalry. In turn, Shermans were replaced by tanks of Soviet- and Chinese origin.

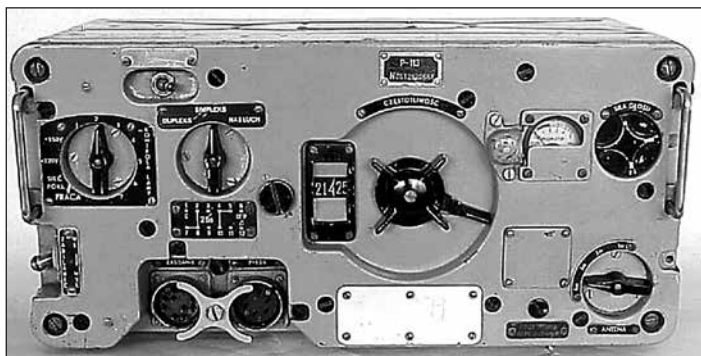
of mediums and heavies, a single all-purpose vehicle, the Main Battle Tank would dominate the future battlefield.⁶

The term Main Battle Tank (MBT) was coined by the Soviets and the Chinese accepted the T-54 into service in 1959 as the Type-59. Serial production began in 1963, and included a number of improvements over the original model, like a vertical gun stabiliser, a better telescopic sight, an infrared headlight and periscope for the driver, an improved radio set called the A-220, a multi-stage engine air filter, radiator controls for improved engine performance, an electrical oil pump, automatic fire extinguishers, and additional fuel tanks.

The strategic relationship that was emerging between China and Pakistan in the mid-1960s was demonstrated by the fact that within three years of commencing the serial production of the T-59s, the Chinese were supplying it to Pakistan. Always looking towards the West for its military hardware, neither the public nor the Pakistan Army was familiar with equipment of Soviet/Chinese design. When the T-59s appeared at the Pakistan Day Parade in 1966, they caused quite a stir. Compared to the large and relatively graceful M47s/48s, the T-59s looked a little sinister and a trifle unbalanced with their long 100mm guns mounted on a comparatively small turret and chassis. The regiments equipped with the first T-59s, realised that it lacked the sophistication of American equipment. Neither did it have the space available inside the large turret of the 'M' Series tanks, nor did it have the power and speed. Though the T-59s had a more robust suspension based on the design by Christie, the ride was hard and caused crew-fatigue. Standing in the cupola of a T-59 on the move, by the end of the day a tank commander had aching legs and a bruised waist. The driver had to exert to operate its dry clutch and brake-lever steering, and driving in hot weather with the hatch closed was exhausting. The loader had a hard time grappling with the heavy 100mm round in a confined space and loading with his left instead of right hand. Finally, the gunner had the least space, which gave the impression that he had been fitted-in as an after-thought. The ergonomics of the T-59 were poor – but it worked and for the terms under which they were being



President Ayub Khan and Premier Zhou Enlai at a military display in China, in 1963.



The transmitter-receiver module of the R-112 in its characteristic grey colour. It was liked for its simplicity and reliability

provided to Pakistan (the tanks came practically free), they were more than acceptable.

In spite of its drawbacks, the officers and crews of the Pakistan Armoured Corps appreciated that in critical areas the T-59 was an improvement over its American counterpart. Though extremely cramped, the crew was protected by nearly double the armour of the M48. The turret was thicker by 93mm with twice the side protection and 50 percent more protection on the hull sides and turret top. It also had far better ballistic sloping and no shot-traps like the M47s. More significantly, the T-59 presented a much smaller target. Its cruising range of 284km was of great relief and obviated the need for frequent refuelling that was the bane of US-made tanks. Its diesel fuel was also considered safer than petrol. Above all, it was simple, robust and practical, and matched the skill levels of the Pakistani tank crews. A distinctive feature of the T-59 was its 100mm D10 gun, which was originally designed for the Soviet Navy. During the Second World War, it was adapted for the antitank role, and subsequently fitted on the SU-100 Tank Destroyers. So successful was the gun that it was selected for the T-54 main battle tank as the D-10T (T stood for *tankovaya* i.e. 'tank'). Its Armour Piercing Capped round had a muzzle velocity of 887 m/s which was slightly less than the 914 m/s of the 90mm gun of the M47/48, but the projectile had a greater kinetic energy. The crews found the 100mm gun accurate, but the long barrel had no thermal sleeve and resulted in barrel-bend. In the desert where at certain times

of the year temperatures could vary as much as 25° C between early morning and afternoon, barrel-bend could cause an error of 2–3 meters at a distance of 1,000 meters. It was only many years later, in the 1990s when the T-59 was upgraded with a 105mm gun, that a thermal sleeve was fitted.

Due to its smaller size, there was space for only 34 rounds of ammunition, which was half the capacity of the 'M' Series. Consequently, fire control had to be strictly enforced. Another serious limitation was that only two types of ammunition were initially available – an Armour Piercing Capped round, and a High Explosive round.⁷ The secondary weapons of the T-59 were the 12.7mm anti-aircraft

machinegun and two 7.62mm machineguns. The 12.7mm had the same ballistic performance as the Point 50 Browning but was more reliable since it did not require any adjustment to the headspace and trigger timing. However, it had a larger muzzle flash, which was its characteristic signature. Mounted in a gun cradle on a rotating cupola provided better control of the weapon, and a vertical elevation of nearly 90 degrees. Since it was located at the loader's station, the tank commander could concentrate on other tasks. 350 rounds were carried on the tank but some of the ammunition boxes were stored inside the tank and that made them difficult to access. After the 1971 War, and particularly with the experience of 22nd Cavalry in the desert, the scale of ammunition was doubled. The additional ammunition boxes were stowed in external racks which were welded onto the turret after the 1971 War.

Following the 1967 Arab-Israeli War, the T-54/55 was criticised for the low angle that its gun could be depressed. While the gun of the M48 could be depressed nine degrees below the horizontal, that of the T-54/55 could be depressed only five degrees. The low roof of the turret restricted the upward travel of the breach block when depressing the gun. However, this was not a serious drawback to the Pakistan Armoured Corps as a large part of its operational terrain was flat. In fact, the T-59's low silhouette of less than 2.4 meters — compared to the 3 meters of the M48 — was a great advantage in the plains of Punjab where hull-down positions were difficult to find. The all-steel tracks of the T-59 gave good traction over soft terrain, but were noisy and at night the screeches of the sprocket teeth meshing with the track could be heard from afar. The track pins had a limited life and required periodic replacement.⁸

The tank had a system of self-recovery that used a large log, but under the strain and weight of the tank, the log often broke. A major problem that the tank regiments of the Pakistan Army encountered with the T-59s in the early stages were burnt clutch plates. The dry clutch was constructed with ten driving and nine driven friction plates, which quickly wore out if the tank driver was overriding the clutch pedal. It was only through constant coaching backed up by disciplinary action, that drivers learnt how to avoid wearing out the clutch. Initially the field workshops re-ground the worn out plates, but ultimately every tank regiment had their own small machine for

restoring the surface. However, there was a limit to how many times the plates could be ground before they became too thin and needed replacement.

After the GRC Series, the Pakistani tank crews liked the A-220 communication set installed in the T-59 especially for its simplicity. The A-220 was a high frequency (HF), amplitude modulated transceiver with medium power, and was first introduced in the Soviet Army in the late 1950s. It was rugged and with recessed controls, for withstanding the glancing blows that wireless sets can receive inside a turret. The A-220 had a transmission range of 24 km, a frequency range of 2.8-4.99 MHz and was manually detent tuned in increments of 10 KHz, which made it simple to switch from one frequency to another.

A complete A-220 consisted of the transceiver, the receiver and transmitter dynamotors, and an antenna along with its tuner/coupler. A separate unit called the A-221, provided communication within the tank and the earphone/mike fitted into the standard Soviet style crew helmet. This helmet was a novelty for the Pakistani crews who liked the summer version made from a strong net with anti-crash pads, because it provided good ventilation.⁹ The helmet had a throat microphone, called the laryngophone, that allowed hands-free operations and put the wireless set onto transmit the moment a tank commander spoke.¹⁰ It took some getting used to, as a loud cough could also switch the wireless set into a transmit mode. The infantry could communicate with the tank commander through a handset attached to a socket on the turret. However, the later was poorly located, as the infantry commander had to scramble on to the tank to use it.¹¹

While China replaced the US as the principal supplier of military hardware, there was a sprinkling of military equipment from the Soviet Union. Since 1964, relations with the Soviets had improved and Pakistan made a request for 200 T-55 tanks and other equipment. However, in 1968 when the Soviet Prime Minister Aleksey Kosygin visited Pakistan en-route to India, he agreed to supply only half the number.¹² The Soviets initiated a modest programme that was terminated when Pakistan declined to join the 'Collective Security System in Asia', that was an attempt to neutralise China. Ultimately, Pakistan could purchase only a regiment of T-55s and some 130mm artillery guns sold at high price. The T-55 was a much-improved version of the T-54, and its Chinese cousin the T-59. It had a larger V-12 water-cooled diesel engine with 580 hp rather than 520 hp, and the operating range was increased by removing the 'bow' machinegun, and installing an additional fuel tank of 300 litres in the front part of the hull. This also overcame the problem of ammunition, as 18 additional shells were stored in a 'wet container' located inside that fuel tank. The T-55 had a first-generation night fighting capability with an infrared system, and the gun had two-dimensional stabilisation rather than just the vertical stabilisation. It also had an infrared sight for assisting the diver but like the one in the T-59, it provided no depth perception and drivers felt more confident driving without it. However, what the T-55 did not have was an anti-aircraft machinegun, and the Pakistan



Soviet Premier Aleksey Kosygin and President Ayub Khan in talks at Moscow in April 1965.

Army installed a 7.62mm MG1A3 instead.¹³

Unlike the electrical starter on the T-59, the engine of the T-55 was cranked pneumatically with air bottles that were recharged by a small compressor. The compressor was slaved to the main engine and the Pakistani tank crews found that it had a limited life because the piston rings and sleeves wore out. The T-55 also had a pneumatic clutch, which could not be overridden, and therefore resolved the problem in the T-59 of wearing out the friction plates. An interesting feature of the T-55 supplied to Pakistan was a small quadrant next to the gunner with a bubble with which the gun could be levelled. The manual stated that if an enemy tank appeared unexpectedly within a range of 800–1,200 meters, the commander traversed the gun with his over-ride control, aligned it on the target and ordered 'Gun level. Fire!' The gunner centred the bubble by elevating/depressing the main gun and pressed the firing button. If the enemy tank was between the range brackets, the round would hit the target. Another feature of the T-55 was its ability to generate a smokescreen by injecting vaporised diesel into the hot exhaust system. It provided a dense screen for tanks following up in an attack but consumed a lot of diesel. The Pakistani tank crews used it sparingly since they had to account for every litre of fuel against the kilometres a tank operated.

A highly trumpeted capability of the T-55 was snorkelling through 5.5 meters of water. However, installing the snorkelling kit took disproportionately long and fording had to be conducted under very controlled conditions. The kit was cumbersome, and while the technical manual stated that it could be installed in 30 minutes, in fact an average crew needed two to three hours. The waterproof covers for the engine grill, cooling fan, telescope aperture, machinegun port, etc. had to be bolted on after applying a sealing paste. In addition, a spring-loaded butterfly valve had to be fixed onto the exhaust on the port side, and a snorkel erected on the turret for the air inlet. With all these add-ons, if the tank was driven for a distance before or after the water obstacle, the engine over-heated.¹⁴ Apart from the time and effort in installing the kit, the point of entry and exit on a canal or river required preparation, and the riverbed needed to be firm. Soviet instructors conducted the initial training on the deep-water fording on the River Kabul near the School of Armour at Nowshera. However, a subsequent fording exercise by 24th Cavalry on a canal near Kharian



A T-55 captured by 28th Cavalry displaying its prominent identification markings used during the 1971 War. It still has the dummy 'bore evacuator' fitted by the Indians.

met with a disaster. The bed of the canal was too soft and a T-55 was stuck. Immediate efforts to recover the tank were unsuccessful, and finally the crew abandoned the tank using a small breathing apparatus provided for such emergencies. Ultimately, the regiment became well trained in fording operations and participated in a large exercise in which the T-55s crossed the River Chenab near Multan.

Turret Insignia

With tanks of a similar design now in service with the two opposing sides, identification of friend and foe became an area of increasing concern. To identify their T-54B/55s, the Indians installed a dummy bore evacuator halfway down the barrel of the main gun and very similar to that on the Centurion and Vijayanta tanks that had entered service prior to 1971. In the 1950s, Pakistani tanks had turret numbers in bold Arabic numerals painted in red with a white border. They

were painted on both sides of the turret, and on the rear to not only assist in recognition but also in command and control. Prior to 1965, the numerals were repainted white. In the 1965 War due to one actual incident of fratricide between tanks and some near incidents, the Pakistan Armoured Corps concluded that under battle conditions turret numbers were not sufficient aids. The Pakistan Air Force also had problems in identifying friendly tanks. Therefore, the Corps added a white ring around the turret and three white bands at the muzzle end of the gun barrel. Unfortunately, during the next conflict the white ring round

the turret provided the Indian tanks and anti-tank weapons a point of aim, and was removed.

A Mixed Bag

On the eve of the 1965 War, the Armoured Corps had four different types of tanks, but in the inter-war years, it added three more – T-34s, T-55s, and T-59s. In the latter part of the 1960s, the T-59 was emerging as the mainstay of the tank force with the first batch of 80 delivered in 1966. By 1971, the Corps had over 420 T-59s equipping ten regiments, and there was also a regiment of T-55s supplied by the Soviet Union. Since the Chinese could not provide T-59s at the pace required, as an interim solution, the Pakistan Army accepted a regiment worth of T-34/85s, which replaced the M24s held by 15th Lancers. German commanders like von Rundstedt and von Kleist considered the T-34 to be the best tank of the Second World War, because it overcame

the technological superiority of German forces. Its main advantage was its simple design, which made it easy to mass-produce and repair, and about 23,000 examples were built. It was lighter than the Sherman by 4 tons, and therefore had a better power to weight ratio. It had a good top speed of 50kmph and a water-cooled diesel engine, which minimised the danger of fire and increased the tank's operational range to 400kms, far in excess of its competitors. While it had nearly the same thickness of armour protection as the Sherman, its well-sloped armour and superior welded construction gave it added protection. It originally had a 76mm gun that was replaced by an 85mm, which matched many of the guns mounted on German tanks. However, it had



A regiment of Soviet-made T-34/85 tanks was supplied to the Pakistan Army.

a large gun-overhang and the driver had to be careful not to dig the 4.7 meter long barrel into the ground. Like many tank engines of the Second World War, its V2 12-cylinder diesel engine was developed from an aircraft engine and was highly reliable when the air filters worked properly. The heritage of these early V2 engines can be seen in Russian AFVs to the present day. While the T-34 was very different to German and US tanks, conceptually it was a good design. However, it had some major drawbacks, particularly related to manufacturing. In spite of being a good tank, by the late 1960s, it was out-dated and no match to the T-54/55s that the Indian Army was converting to in large numbers.

The Armoured Corps was still operating about 260 M47/48s distributed into the regiments of 8th Independent Armoured Brigade, and three others with the infantry divisions in Central Punjab. An equal number of Shermans, still operational but on their last legs, equipped four tank regiments and two recce regiments. The balance of about 70 Shermans and 40 M36B2s were in the General Staff Reserve. Pakistan made an effort to replace the Shermans, and a record of a conversation between President Johnson and President Ayub at a brief meeting at Karachi Airport in December 1967 states that the US President 'agreed to look into the possibility of replacing the 500 obsolescent Sherman tanks with Pattons'.¹⁵ A year later, Pakistan's ambassador in Washington raised the issue again in a meeting with the Secretary of State and informed him that his country:

... had been trying for almost two years to get one hundred second-hand tanks, about which there was a promise from President Johnson during a stopover visit to Karachi airport in December 1967. It appeared that something was moving on one hundred tanks with Turkey now, but the Pakistan Army is getting worried after all these months of waiting.¹⁶

The Secretary of State responded that '... he expected to come to grips with these problems soon', but nothing materialised. The 1967 Arab-Israeli War had brought out some innovative ideas in upgrading the Sherman. While the Pakistan Army did not attempt to replace the gun, an Italian company installed and tested a General Motor's



President Lyndon B Johnson and President Ayub Khan meeting at Karachi International in December 1967.



One of the French-made AMX-13 light tanks captured in Chhamb in 1965.

diesel engine on a Sherman. The engine performed well during the trials conducted at Tilla near Jhelum, but the idea was never applied – probably due to a lack of funding. An M47 tested with a 12-cylinder General Motors diesel engine by the same Italian company also met a similar fate though it was displayed to Field Marshal Ayub Khan who considered this 'a great step forward'.¹⁷

The M24 Chaffees had not been phased out and were shipped to East Pakistan to join a half squadron of PT-76s that had been gifted by President Sukarno during the 1965 War. The squadron also had a PT-76 in running condition that was captured by the 1st East Bengal Regiment from 7th Cavalry in the Bedian/Kasur Sector during the 1965 War. Until 26th Cavalry was raised in support of 23rd Division, even the AMX-13s that had been captured from the Indian 20th Lancers during the operation in the Chhamb Sector in the 1965 War were pressed into service in 1st Independent Armoured Squadron.¹⁸ The AMX-13 was a French light tank, named after its weight of 13



An M88A1 of 15th Lancers preparing to tow a T-59.



A mine-roller installed on a T-59.



Brigadier Shabbir signing the protocol agreement for the T-59 tank rebuild program in July 1971.

tons, and featured a tough and reliable chassis. It was fitted with an unusual and troublesome two-part oscillating turret, but it had a revolver type magazine that enabled a high rate of fire. It had an excellent 75mm high-velocity gun modelled on the gun fitted on the German Panther tank during the Second World War and adopted by the Israelis for their Super Sherman.¹⁹ From 1966 onwards, the French upgraded all their AMX-13s with a 90mm medium velocity gun firing a more effective HEAT ammunition. A brochure of this upgrade was shown to Ayub Khan in 1968, and he was very intrigued with the AMX-13/90, because the design concept and capabilities were close to his thoughts on the ideal tank for the Pakistan Armoured Corps.²⁰

The Cantonments South of Ravi

The 1965 War was a watershed for the Armoured Corps. It not only brought about changes in equipment, organisation and doctrine, it also engineered a change in the placement of armour regiments. Prior to 1965, except for a regiment far to the west in Quetta, there was no armour garrisoned south of Lahore all the way to the coast. When an armoured regiment was required for operations in the Rann of Kutch in 1965, it moved all the way from Lahore. However, as forces increased on



Soldiers of the AGRPA training in Multan in the early 1950s.

Table 1: Regiments and Tanks of the Pakistani Armoured Corps, 1965 & 1971

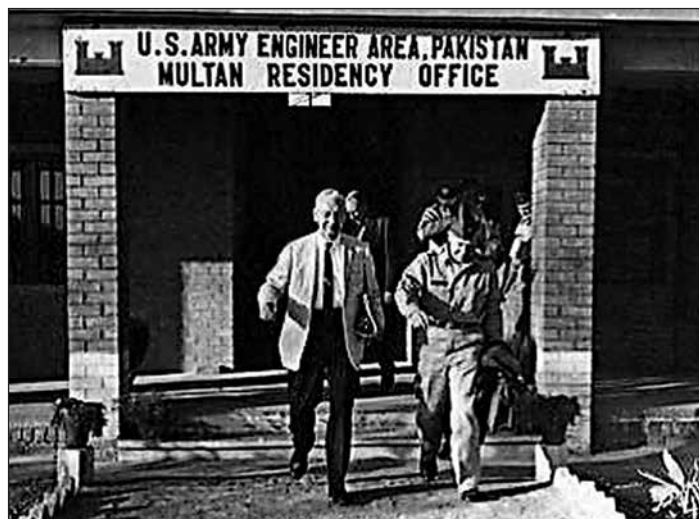
Regiment	1965 War	1971 War
4th Cavalry	M47 Pattons	M48 Pattons
Probyn's Horse	M47 Pattons	T-59
6th Lancers	M47 Pattons	T-59
Guides Cavalry	Two squadrons M48. One squadron M36B2	T-59
11th Cavalry	Two squadrons M48. One squadron M36B2	T-59
12th Cavalry	M24 Chaffee	T-59
13th Lancers	Two squadrons M48. One squadron M36B2	M48 Pattons
15th Lancers	M24 Chaffee	T-34
19th Lancers	M47 Pattons	T-59
20th Lancers	M24 Chaffee	Shermans
22nd Cavalry	M48 Pattons	T-59
23rd Cavalry	Shermans and a few M48s	Shermans
24th Cavalry	M48 Pattons	T-55
25th Cavalry	Two squadrons M47. One squadron M48	T-59
26th Cavalry	-	Shermans
27th Cavalry	-	M47 Pattons
28th Cavalry	-	T-59
29th Cavalry	-	60 M24 Chaffee and 5 PT-76
30th Cavalry	TDU with Sherman Tanks	T-59
31st Cavalry	TDU with Sherman Tanks	M48 Pattons
32nd Cavalry	TDU with Sherman Tanks	M47 Pattons
33rd Cavalry	TDU with Sherman Tanks	M47 Pattons
38th Cavalry	-	Shermans
39th Cavalry	-	Shermans
51st Lancers	-	Shermans

Table 2: Overview of Regiments and Tanks of the Pakistani Armoured Corps, 1965 and 1971

Regiments	1965 War	1971 War
Pattons	10	6
Shermans	5	6
M-24s	3	1
T-34	-	1
T-59	-	10
T-55	-	1
Total	18	26

The 1965 figures include four TDUs. 34th TDU with Stuart tanks is not included.

The 1971 figures do not include TDUs and independent squadrons.



The Residency Office of the US Army Corps of Engineers at Multan Cantonment.



Obsolete Indian Pattern Armoured Cars maintained at COD Lahore, 1951. In the rear are Bren Gun Carriers.



The hexagonal fort constructed by the British at Multan.

both sides of the border, the desert expanse of Cholistan and Chor gained military prominence. As a result, first Multan and then Malir were garrisoned by armoured formations. Bahawalpur was occupied later when the Army decided to deploy troops in cantonments closer to the border. All these stations had been cantonments before the Independence to a larger or lesser degree. During British rule, Lahore was an important communication centre and an attractive station with a large garrison, but seldom had more than a regiment of cavalry. Neither did Multan, which was comparatively much smaller and until the 1950s, considered a punishment posting. It was not until the US Army Corps of Engineers constructed the new cantonment

in the early 1960s that it acquired respectability. Bahawalpur was not a garrison for troops of the British India Army, but home to the battalions of the State Forces of the Nawab. Further south, Malir had become a sizable cantonment during the Second World War. It was not only a staging post for troops of the British India Army moving westwards to the combat theatres; it was also one of the main logistic bases for the transshipment of the US military hardware and stores for the China-Burma-India (CBI) Theatre. However, after the war its fortunes waned, but were revived after 1971 and within twenty years, it had developed into another major military cantonment.

Of Dust, Beggars, Saints and Armour

When Pakistan and the US signed the construction agreement in 1956, they initially agreed on one cantonment at Kharian and a second not at Multan but near Kala. Kala was a few kilometres northwest of Jhelum where the headquarters of I Corps had been raised. The two cantonments would accommodate 27,840 officers and other ranks.²¹ Subsequently the two signatories agreed to cancel the cantonment near Jhelum, expand Kharian to accommodate the corps headquarters, and billet a corps artillery brigade at Multan. There is contradictory evidence from US records on the reason to shift the site from Jhelum. A report by the US Army Corps of Engineers states: 'Because of the possible flooding by a proposed dam downstream, the United States and Pakistan agreed to cancel the Jhelum cantonment and shift the resources to expand facilities at Multan and at Kharian.'²² However, a report by a US Congressional Subcommittee on the construction program refers to a document submitted by the US Department of Defense, which stated:

The I Corps cantonment [i.e. a corps headquarters and an artillery brigade], was originally sited for construction at Jhelum. Since this placed a concentration of some 25,000 troops near the Indian border, it was felt advisable to relocate a portion of the corps troops.²³

The Pakistan Army agreed on Multan primarily because an army artillery brigade was already located there. From a long-term operational perspective, it was an excellent decision.

Unlike Kharian, the cantonment at Multan was anchored to an old

and established city whose history dated back to the Mahabharata Wars when the Katoch Dynasty ruled it.²⁴ Subsequently it was the eastern most bastion of the Persian empires. In 326 BC, it fell to Alexander the Great. In his conquest of Sind around 712 AD, Muhammad bin Qasim also advanced as far north as Multan, which briefly came under Arab rule and then fell under Ismaili control for a number of centuries. Multan's location at an entrance to the sub-continent resulted in its conquest by a series of invaders including the Mongols, Amir Timur, Mahmud of Ghazni, and finally Mahmud Ghori who drove out the last of the Ismailis. Following its annexation to the Mughal Empire in 1557, the city enjoyed 200 years of prosperity, but witnessed difficult times once the Mughal power declined. It then changed hands between the Marathas, Durrani and Pathan chieftains until it was captured by the Sikhs with the help of the famous Zamzama cannon of Ahmed Shah Durrani. Finally, the British wrested Multan from the Sikhs at the end of the Second Anglo-Sikh War in 1849.²⁵ In 1858, the Multanee Regiment of Cavalry was raised by Captain Cureton, which consisted of six *risalas* (irregular cavalry troop) of Multani Pathans and detachments from other *risalas* including men from the Khwakwani Risala. A year later, the regiment was renamed as the Cureton Regiment of Cavalry.²⁶ Due to various name changes, both 15th Lancers and 20th Lancers claim descent from this regiment. The British established a cantonment at Multan and constructed a small hexagonal fort on the western side of the old city which is still occupied by the army.

In spite of its heat and dust, Multan was a Rest Camp for British soldiers who had been Japanese POWs during the Second World War.²⁷ After Independence, from 1953 onwards, 105th Brigade was located at Multan. In 1956, the HQ of 10th Baloch Regiment and the 8th Punjab Regiment moved from Quetta to Multan where their records were merged with the Centre of the Bahawalpur Regiment (which came from Dera Nawab), to form the Baloch Regimental Centre. A year and a half later in 1957, the Baloch Regimental Centre moved to Abbottabad.²⁸ Also based at Multan during this period was the 2nd Army Group Royal Pakistan Artillery (AGRPA), which was later re-designated as the IV Corps Artillery Brigade. Construction of the cantonment by the US Army Corps of Engineers to accommodate 8,500 troops began in the summer of 1959. Since Multan was not planned for an armoured division, it was constructed on only 270



The New Year Parade, 1936. Visible are Mark IV Light Tanks of the Royal Tank Corps at Lahore prior to the Second World War.

acres of land, far smaller than the 4,000 acres over which Kharian Cantonment stretched. Within this relatively small area adjacent to the old cantonment, the Corps of Engineers built 310 structures, including 60 barracks, 27 mess halls, 35 administrative buildings, 25 lecture halls, and all of the supporting utilities.²⁹ The contractors, Oman-Farnsworth-Wright (a consortium of three American companies), completed the cantonment by June 1961, nine months ahead of schedule. The cost incurred on Multan Cantonment was far less than Kharian, and this was partially to do with its compactness, which resulted in savings on roads and other

services. However, the main reason was that it was designed on a more austere basis than Kharian. The total money spent on construction at Multan was \$18 million (\$2,250 per soldier accommodated), far less than the \$65 million that was spent on Kharian (\$3,823 per soldier accommodated). While work was in progress in Kharian, there were increasing concerns by MAAG that the facilities being provided were 'in excess of the parameters of the design criteria and the needs of the Pakistan Army'.³⁰ This implied that American money had been wasted.

These concerns were transmitted both to the US Army Corps of Engineers as well as to the Pentagon. In response, the Corps of Engineers contracted a firm of architect-engineers to conduct a field investigation and recommended modifications to bring the standard of construction of future projects like Multan and the headquarters of I Corps at Kharian into consonance with the existing standards of the Pakistan Army. The survey team spent ten days visiting 16 military installations, and arrived at the conclusion that;

Most of the Pakistan armed forces are housed in British-built barracks, which are in no sense mud huts although in general they reflect the architecture and plumbing standards of the 1890s rather than 1960s ... There was no suggestion by anyone in Pakistan that the Pakistan military was handicapped by obsolete housing.³¹

The modifications they subsequently recommended did not apply to any changes in the basic design or reducing the living space but achieved saving by lowering the standards for the interior, roof treatment, electricity and water supply, and sewage treatment. Considerable savings were incorporated by replacing casement type windows and high-grade nickel bronze hardware for the doors of toilets. In addition, facilities that were not being used by the soldiers at Kharian (which was by now occupied), were eliminated like refrigerators, hot water for the bathrooms, and shelves and mirrors in the toilets. It was considered by the survey team that: 'These provisions were quite luxurious and entirely beyond the customs and habits of the Pakistani soldiers'.³² The team also closely studied the habits of the troops and observed that: '...the shaving habits of Pakistan troops are different from those of Americans...the Pakistani soldier does not normally shave upon arising in the morning but waits until the siesta period which is universally observed in the afternoon. During



Humber armoured cars of 19th Lancers at Malir Cantonment, 1942.

the siesta hours he is shaved by one of the numerous camp-follower barbers'.³³

Having spent time in the spacious environments of Kharian before the 1965 War, the 1st Armoured Division felt cramped in Multan. The headquarters of the division moved into an archaic building, which was constructed in 1876 as part of a hospital. In 1931, it was the headquarters of the artillery and after 1945 was part of the rest camp.³⁴ The officers and troops faced even more problems than they encountered during the early days at Kharian.

Bachelor officers lived in JCO quarters, while married officers were given a room or two each in the BOQs. Accommodation for JCOs and ORs was just as bad, and there were not even enough charpoys to go around, causing soldiers returning from a year-long deployment in the field to sleep on the bare floor in their new peacetime location. Regimental messes were done away with, due to want of accommodation amongst other reasons; an enviable and much loved institution disappeared due to the vagaries of time and changed circumstances.³⁵

However, young officers found the compactness of the cantonment to their liking. Unlike Kharian, they could conveniently walk from the rooms to the mess and the unit lines. It seems extraordinary that with all this discussion on barracks and housing, one essential requirement that was overlooked by the Corps of Engineers and the Pakistan Army, was sheds for parking the tanks and vehicles. In the searing-hot summer sun, the jeeps and trucks suffered the most, but it was also painful for the crews to work on the tanks and guns.³⁶ When the heat of summer gave way to the monsoon deluge, all the major equipment had to be covered by tarpaulins. What the Americans did provide in both the garrisons were air-conditioned training rooms. They had a capacity of seating up to a hundred, with a large door through which a tank could be driven in. In the Pakistan Army, much smaller classes were organized for this purpose and these training rooms were converted into halls for lectures, and conducting tactical discussions on sand models.

Regardless of its limitations, the armoured division came to relish its new premises and in the jargon of the Pakistan Army, Multan and 1st Armoured Division became synonymous. Gul Hassan who commanded the division in Multan after the 1965 war says:



The Fort Colony at Multan with the hexagon-shaped fort on the right.

... for some it was a heavenly place. Those who relished mangoes could not possibly have wished to be posted elsewhere. In addition, several shrines were located in and around Multan where, if one desired, one could cleanse ones accumulated wrong doings. Among the inhabitants, there was no dearth of *Gaddi Nashins* [heirs] who, by virtue of their birth, claimed to be blessed with supernatural power to dispense instant consecration to those who may have strayed from the straight and narrow.³⁷

One of the best features that emerged at Multan was a colony for the officers. In spite of the pressure by GHQ and the savings in cost of construction by the Corps of Engineers at Multan, the Americans did not provide any housing. As at Kharian, the contractors constructed a small colony of twenty or so houses to accommodate their engineers, which provided the nucleus for the large officers' colony that was subsequently constructed for the garrison.³⁸ Named the Fort Colony after the old fort constructed during the British era that lay across the road, this included large compounds used for growing vegetables and other crops for the kitchen. At a time when cantonments within the larger cities like Lahore and elsewhere were steadily losing their military identity, the atmosphere in Fort Colony was refreshing. The family lived in the colony as a close-knit community with its distinct culture and flavour, and was a strong factor in developing the *esprit-de-corps* that emerged within the 1st Armoured Division. The colony had its own polo ground, and the officers club had tennis and squash courts, and a swimming pool. Some years later, a nine-hole golf course was constructed which later expanded to eighteen holes.

The number of headquarters and formations in Multan kept increasing and reducing. 105th Brigade which had been there since 1953, moved to Bahawalpur after the 1965 War to make space for the armoured division. Following the war, the headquarters of IV Corps was raised in Multan and took under its wings all the formations in Southern Punjab, Sind and Balochistan.³⁹ It had been sanctioned in the early 1960s but due to financial restraints, it was not raised until after the 1965 War though its artillery component was already based in Multan. The absence of this corps headquarters for articulating the operations of 1st Armoured Division and 11th Division was one of the major reasons for the debacle at Khem Karan. In 1969, just before the declaration of martial law, the nucleus staff of Headquarters IV Corps

moved to Lahore to prepare for its impending duties and the rest of the headquarters followed soon after. It was replaced by the headquarters of II Corps, which was raised at Multan before the 1971 War.⁴⁰

When the armoured division returned to Multan after the 1971 War, 3rd Armoured Brigade permanently shifted to Lahore. Seven years later in 1977, 10th Independent Armoured Brigade was raised as a formation of II Corps at Multan and stayed for ten years before it shifted east to Bahawalpur. Some years later, its place was filled by the first of many mechanized formations of the army; the 44th Mechanized Brigade. While the space inside the cantonment remained

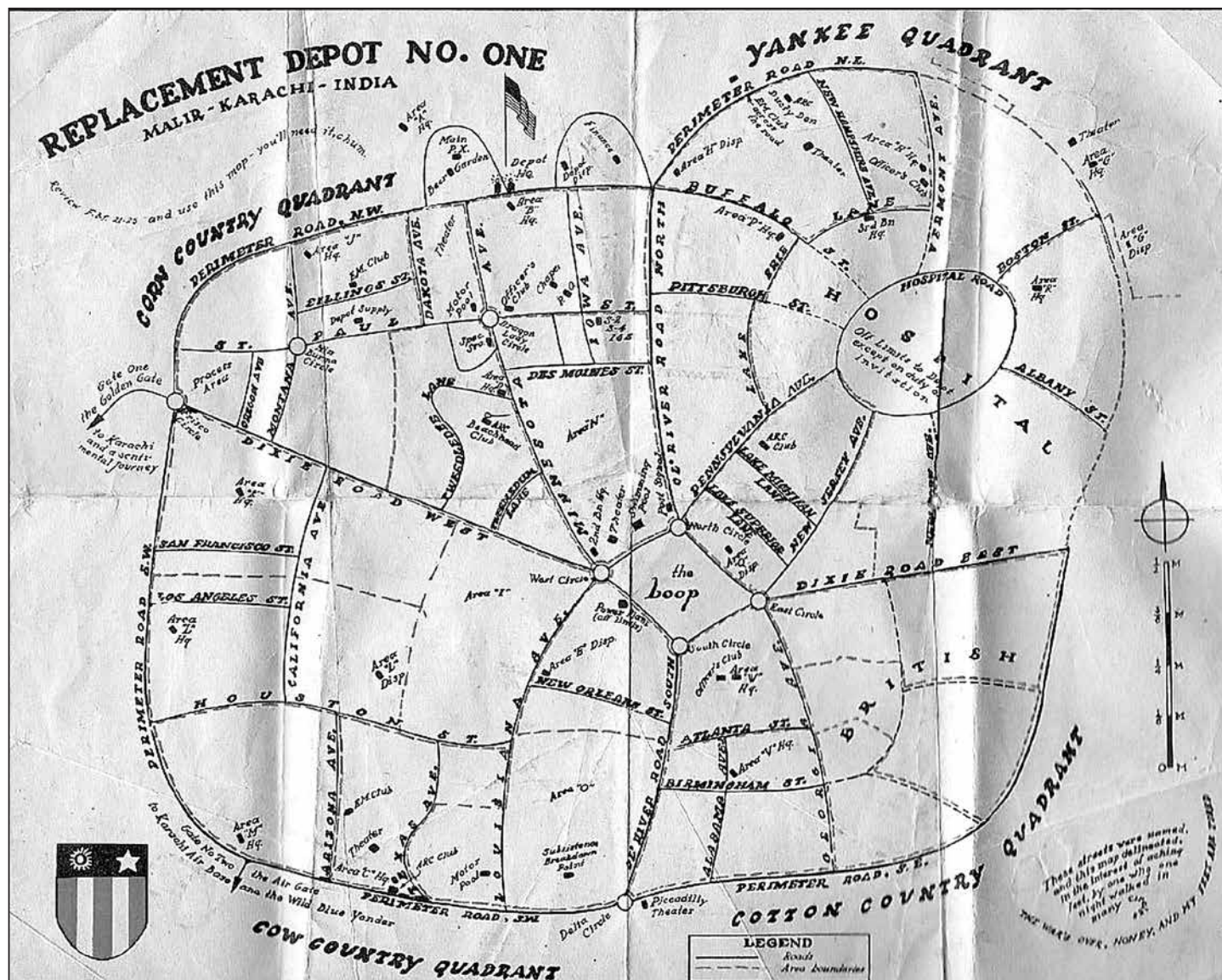
cramped, there were sufficient open tracts nearby for training the tank troops and squadrons. Just across the River Chenab, the desert north of Muzaffargarh was not only adequate for exercising larger bodies of troops, but also for the firing of heavy weapons. In subsequent years when there was an abundance of engineer equipment, a floating bridge was constructed across the River Chenab and the armoured vehicles drove westwards out of the cantonment, across the river and into their training area. However, it was eastwards across the River Sutlej that the armoured division discovered the most suitable training area. The Cholistan Desert provided large spaces with plenty of room to manoeuvre and fire, and the division took to this desert like a duck to water.

The Garden City

When Lahore was captured in 1846, the British and native troops encamped outside the walled city in the area known as Anarkali. It was an unhealthy area and in the six years that the troops stayed here, there was a high rate of deaths from gastrointestinal diseases.⁴¹ This forced a decision to construct a new cantonment away from the city. There are a few stories associated with the selection of the site for the new cantonment by the C-in-C, Sir Charles Napier, a popular one being that he fell off his horse near the shrine of the Mian Mir and selected the site. Mian Mir, which earlier bore the name of



The command post of 19th Lancers during an exercise in the desert outside Malir Cantonment, 1942.



Map of Malir Cantonment drawn by an American in 1943, with typical US street names.

Haslumpur, was located in an open and arid plain, bare of trees. Prince Dara Shikoh, brother of Aurangzeb, who was put to death when the emperor ascended the throne, was a disciple of a famous saint Mullan Shah, known as Mian Mir. He purchased the village of Haslumpur, and bestowed it on his religious preceptor, after whom it was renamed. The mausoleum of the saint is a handsome domed building of white marble and red Agra sandstone, with a mosque in the courtyard.⁴²

From a military perspective, Lahore was an important communication centre with road and railway links east to Delhi, west to Multan, Sukkur and Quetta, and northwards to Rawalpindi and the Northwest Frontier of British India. It became the headquarters of the 3rd (Lahore) Division that was part of Northern Command headquartered at Rawalpindi. Preceding the Second World War, 6th Lancers followed by 19th Lancers served at Lahore. Being a large military station, it also housed a Central Ordnance Depot, which Pakistan inherited at Independence.

At Independence, Probyn's Horse was based briefly at Lahore to assist with the evacuation of refugees travelling through East Punjab, and in 1950 moved north to Risalpur. Its place was taken by 6th Lancers which moved from Sialkot to form part of 10th Division. During the 1950s, the only compliment of armour at Lahore was the tank regiment of 10th Division, but the number mushroomed prior to the 1965 War with a corps recce regiment, a tank regiment each

with 10th and 11th Division, and a couple of Tank Delivery Units. The first and only armoured formation ever based at Lahore was the 3rd Armoured Brigade that was transferred from 1st Armoured Division before the 1971 War. The armoured brigade moved into the old Native Cavalry Lines, named Luck Lines, while the tank regiments of the infantry divisions were located near Walton and at Harbanspura, east of the old cantonment. Regiments moving to Lahore, especially from more remote and smaller stations, were generally excited about serving in a large city but soon found that it came with a price. Until the late 1970s, a host of activities in the garrison drew officers and troops away from training and unit administration. Apart from the usual commitments in a large cantonment like garrison guard and 'fatigue' duties, lectures and presentations, and inspections, other events like the Horse and Cattle Show, polo tournaments, visits by dignitaries and foreign military delegations also put a stress on the regiments. One of the difficult tasks that the commander of 3rd Armoured Brigade had to undertake was to periodically organize and participate in the meeting of the Pakistan Polo Association. It was often a noisy affair caused by strong disagreements between some of the senior members that resulted in a member or two threatening to walk out of the meeting. The brigade commander had to exercise great tact to maintain a semblance of order.

From an operational perspective, Lahore was not the ideal location

for an armoured brigade. It was too close to the border and on one end of the corridor formed by the Rivers Ravi and Sutlej. It was also difficult to find suitable areas for field training as the water table was very high. In the early 1980s, a squadron of 26th Cavalry that detrained and parked its tanks next to the railway line at Kanna Kacha, just 16 km out of Lahore, found to their dismay the next morning, that more than half of their tanks had sunk two feet in. As the few spaces available for training close to the garrison were swallowed-up by housing colonies and industrial areas, the regiments had to look

further afield. In spite of all these drawbacks, Lahore continued to be a station of choice for the armoured regiments and the command of 3rd Independent Armoured Brigade Group, a prestigious appointment. Of the 19 officers who commanded the Brigade in a span of 30 years (1965–1995), 13 were promoted as general officers, including an army chief and a vice chief of army staff. However, by the 1990s the brigade lines were in the heart of urban Lahore and the brigade moved to a new cantonment that was more suitable.

CHAPTER 6

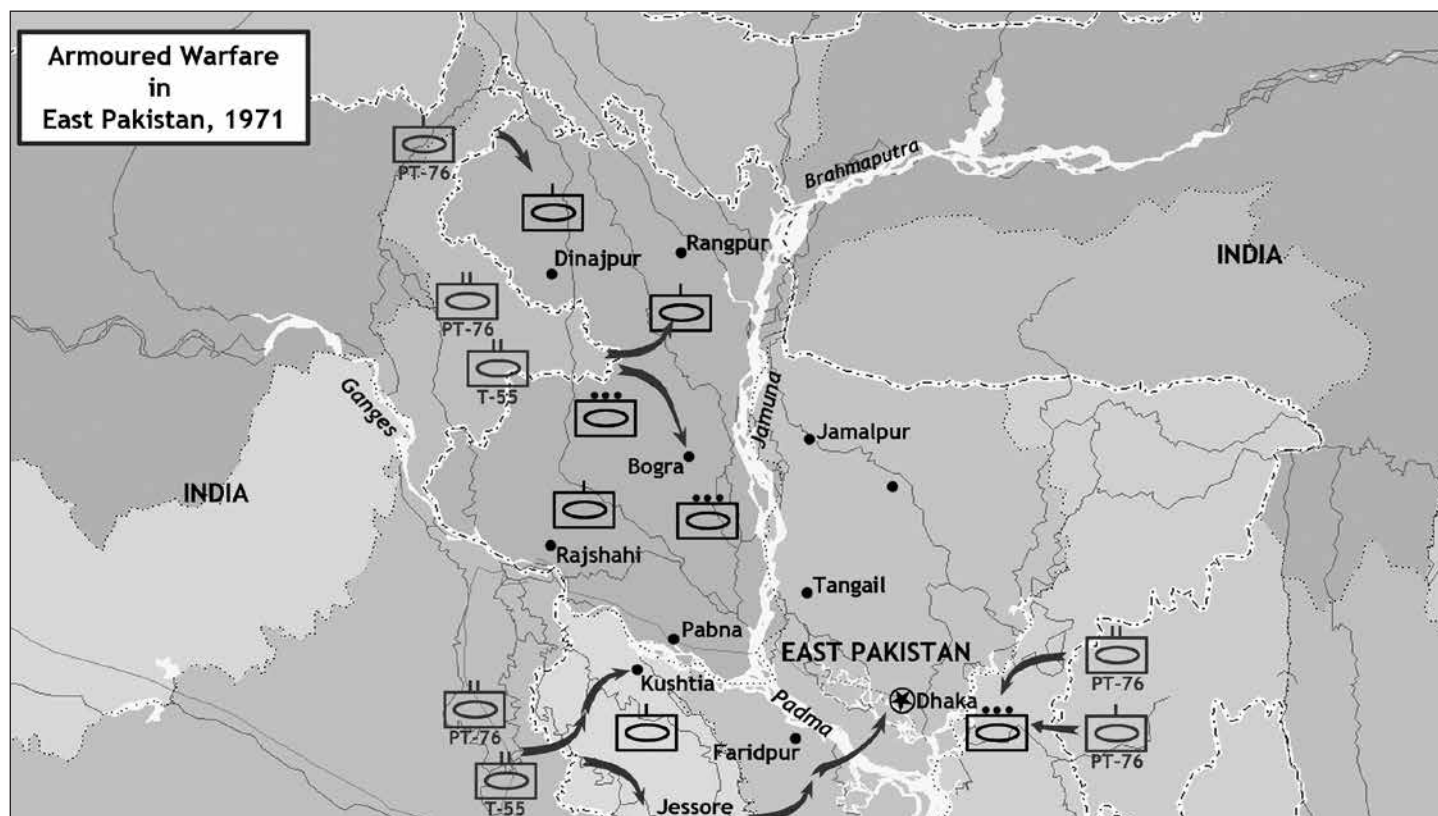
INDO-PAKISTANI WAR OF 1971

In a short span of six years, the Pakistan Army fought two wars against India, but in both the conflicts, the scenarios differed considerably. While the focus of the 1965 War was Kashmir, and Northern-Central Punjab, the 1971 War was fought in a sub-continental dimension with Indian forces strong enough to take the offensive against both the wings of Pakistan. In the western wing, the area of operation had nearly tripled, and extended all the way down to lower Sind and the centres of gravity now resided in both central as well as southern Punjab. In these two wars, the armoured corps of both nations were also employed differently. In 1965, both sides committed their strategic reserves including the armoured division into battle, but in 1971, they were held back. Apart from operational considerations, organizational changes also influenced how the armour was employed. In the period between the two wars, both sides improved the articulation of command of the tank forces by raising more independent brigade headquarters. Within the Pakistan Armoured Corps, the relatively high number of regiments that had earlier been under the command

of the holding divisions in the river corridors were now grouped into armoured brigades with the army's corps in the defensive role. More regiments had been added, but the advantage that the Pakistan Armoured Corps enjoyed in quality and quantity over the Indians in 1965 no longer prevailed, and though the T-59s were emerging as the mainstay of its tank force, the M48s, M4 Shermans, and M24 Chaffee were still in service.¹

Against All Odds: Armour in East Pakistan

The advantage possessed by the Indians in armour of 1971 was at an extreme in the East Pakistan Theatre, where just 60 Chaffee tanks and a few PT-76s faced one Indian armoured regiment of T-55s, and a large number of PT-76s grouped into three regiments and an equal number of independent squadrons. Four months after it had been raised at Nowshera, 29th Cavalry had been shipped to the eastern wing in February 1970 under the command of Sagheer Hussain Sayed. It was stationed at Rangpur in the north of the province where the terrain



Dispositions of Indian Army's armoured regiments deployed against the western border of East Pakistan. (Map by Tom Cooper)

was suitable for tanks. Ten of the 60 Chaffees and a detachment of six PT-76s were stored in the Central Ordnance Depot as a reserve: present there since 1965, they were merged with the regiment. Soon after 29th Cavalry arrived, the regiment participated in the Pakistan Day Parade at Dacca where the tanks received a tumultuous welcome. A year later, the environment was radically different. Since the beginning of March 1971, there had been serious political unrest, armed rallies, widespread lawlessness, sporadic incidents of violence in Dacca, and attacks by Bengali mobs on non-Bengalis and property in many parts of the province. Most of these attacks were on civilians and commercial properties, but the murder of army personnel, caught in ones and twos, became frequent. On 24 March, Lieutenant Abbas of 29th

Cavalry was brutally murdered when he went to buy fresh vegetables for the troops. His escort of Bengali soldiers was disarmed by the mob and sent back unharmed. However, like the rest of the Army in East Pakistan, 29th Cavalry stood firm despite grave provocation. Anthony Mascarenhas, the Pakistani journalist who became famous for his condemnation of the military action, conceded; 'It speaks volumes for the discipline of the West Pakistan Army, that its officers were able to keep the soldiers in check during what was to them a nightmare of 25 days'.

On the night of 25–26 March, the army launched Operation Searchlight to arrest political leaders, disarm potentially disloyal Bengali personnel in the police and army, and crush the militants by force. There followed a large scale rebellion by the Bengali soldiers, but on the night of 31 March, through a well-conceived plan, 29th Cavalry disarmed all its Bengali troops, which made up 50 percent of the strength. The Bengali soldiers were sent on patrol and on their return deposited all their weapons in the *kotes* (armoury) while the tanks were taken over by the personnel from West Pakistan. They were later sent to West Pakistan and replaced by soldiers whose regiments had previously held M24s. Simultaneously with speed and audacity, detachments of the regiment along with infantry wrested critical areas back from the rebels. An old airfield near Rangpur, and the railway bridge seized by a battalion-sized force of East Pakistan Rifles was recaptured, opening the way for reinforcements to arrive. Radiating 60–80 km further out, the regiment seized an important railway junction at Parbatipur and the airstrip at Thaurgaon. Operations then shifted south to the Hilli Sector, and the regiment made a rapid move to link up with an infantry brigade advancing from Dacca to recapture Bogra, which was a stronghold of the rebels. Having secured the city, the combined force, supported by artillery, repulsed an attack by the rebels. In Dacca, the ten M24s held in the depot were formed into an ad hoc squadron; and assisted the infantry in securing the capital. Further east, a troop of four M24s assisted the infantry in regaining control of Chittagong, which had fallen into rebel hands. Once the



An M24 Chaffee of 29th Cavalry seen while crossing the Hardinge Bridge on the Padma River after the Battle of Kushtia.

authority of the government had been re-established, the regiment was deployed for protecting the Lines of Communication. The regiment headquarters moved down to Bogra, and a squadron was deployed halfway to Rangpur at Gaibanda.

When the Indian Army started concentrating for an offensive on East Pakistan, to protect the western border, 29th Cavalry was deployed in squadrons and troops over a lateral distance of 270km. It was now commanded by Lieutenant Colonel Sajjad Haider Bokhari who regrouped the regiment into four under-strength squadrons. Three were located in the Bogra-Rangpur Sector where the soil was firm enough for armour operations, and the fourth was further below in the northern part of the Khulna Sector. To protect Dacca from the east, the troop from Chittagong had shifted to Comilla, and the half squadron of PT-76s was protecting an important road and rail bridge at Bairab Bazar 70km to the northwest. The ad hoc squadron at Dacca had been designated as 3rd Independent Armoured Squadron and was the first to go into action on 12 November when the Indians attacked Paragpur, a border town to the west in the Jessore Sector. Moved rapidly from Dacca and without any orientation, it was thrown into battle and lost seven tanks in the first engagement. The Indian offensive was launched on the night of 20–21 November and considering their scale of forces, and the support of the Mukti Bahini, for the first two weeks the achievements were limited in most of the sectors.

On 4 December, the offensive resumed from the lodgements that they had gained in the previous fighting. By this stage, 'A' Squadron commanded by Major Sher ur Rehman was based in Kushtia with two troops of tanks, and one troop was further north supporting the defence in the Hilli Sector. The Indians led the advance with PT-76 tanks. It was a light amphibious tank with a 76.2mm gun, and a variety of ammunition including HEAT. As the Indians advanced from the south towards Kushtia, on 9 December Major Sher's squadron and an infantry company, moved forward to block their advance. That very morning the Indian division advancing on this axis had been reprimanded by the corps commander for being too cautious and the

division commander had been told to advance rapidly into Kushtia as the Pakistani forces were on the run. The leading troop of M24s, commanded by Lieutenant Aslam Paunwar, ambushed six PT-76s and an infantry battalion that were advancing on the road as the area on both sides was waterlogged. From a dominating position on the road itself, the M24s opened fire with all their weapons including the 75mm main guns, and the Point 30 and Point 50 Browning machineguns. Five PT-76s were destroyed and the sixth, named *Arjun*, was abandoned and recovered by 29th Cavalry after the battle. The Indian infantry battalion also suffered heavy casualties and fled. Both the squadron commander as well as Lieutenant Khalid Karak who was martyred in action, were awarded with Sitara-e-Jurats. Because of this ambush, the Indian advance on this axis stalled, and the Pakistani brigade along with the tanks withdrew across the Padma River. After the surrender, the Indians came to 29th Cavalry and reclaimed their tank.

Until the time they finally surrendered, all the other squadrons of 29th Cavalry were constantly in action, launching counterattacks along with infantry battalions and carrying out fighting withdrawals. In a bold action, a troop from 'B' Squadron supported an infantry battalion, attacked and overran a well-defended Indian position near Ramsagar Lake in the Rangpur Sector, capturing the company commander. In the Naogaon Sector, 'C' Squadron gallantly faced T-55s but lost five tanks while conducting retreating operations up to Bogra. On the eastern side of the province, both the tank troops defending Comilla as well as the half squadron of PT-76s which was also manned by personnel from 29th Cavalry, put up a brave fight. This half squadron was commanded by Colonel Abdul Basit, a staff officer in the headquarters of 14th Division, and he was awarded with a Sitara-e-Jurat for destroying a squadron of Indian PT-76s. When 29th Cavalry was re-established in 1974, it had the distinction of being one of the most highly decorated regiments in the Armoured Corps, with five Sitara-e-Jurats, two Tamgha-e-Jurats, and eight Imtiaz Sanads, all earned in East Pakistan.

Return to Chhamb

The offensive by the Pakistani forces in the Chhamb Sector was conceived as a defensive manoeuvre to eliminate the salient and deny the Indians a base for operations towards Gujrat and the Grand Trunk Road. 23rd Division had 26th Cavalry as its integral tank regiment that was equipped with Shermans. A month before the war 11th Cavalry

with T-59s arrived from 6th Armoured Division, as did an additional infantry brigade and artillery resources from I Corps. In the last few hectic days before the war, the headquarters of 2nd Armoured Brigade was raised to articulate the command of the armour available to the division. On the opposing side was the Indian 10th Division, and its integral tank regiment was Deccan Horse with T-54s. Deccan Horse had fought well in Khem Karan in 1965, but at Chhamb in 1971 it did not match its earlier performance. An armoured brigade was positioned at Akhnur, across the River Chenab, which did not have a Class 50 bridge, and it would take five nights to ferry the brigade across. According to an article on the Battle of Chhamb that appeared in the *United Services Journal*, July-September, 1990, the mission of the Indian division kept changing:

In the two months preceding the outbreak of hostilities, the task of the division in general and of the 191st Brigade in particular, was changed four times — from defence in Troiti, to an offensive, thence to a forward posture, which also entailed safeguarding the sanctity of the CFL and finally on 1 December, the adoption of a defensive posture.

In response to its final task, the Indian 191st Brigade deployed three battalions ahead of the River Tawi, with a fourth behind the river. However, unlike the 1965 War, the defences were not on the Cease Fire Line but 3,000 meters behind on more defensible terrain with the right flank anchored on Mandiala, protecting the bridge over the river, and the left on Munawar Post at the southern end of the salient. Linking these two extremities was an arc of relatively high ground called the Phagla Ridge, and the Barsala Ridge. Only one squadron of Deccan Horse was initially deployed ahead of the river with its bias towards the south and west, but on the night the war started a second was pushed across. This squadron reinforced the tanks already deployed in the central and southern part of the salient leaving the north less guarded. This error in reading the threat was one of the reasons for losing the Chhamb Salient. Concurrent to the forward defence by 191st Brigade, 72nd Armoured Regiment with T-55s and an independent squadron with AMX-13s were ferried across the Chenab but there was no armoured brigade headquarters available for the seven squadrons of armour now with 10th Division.

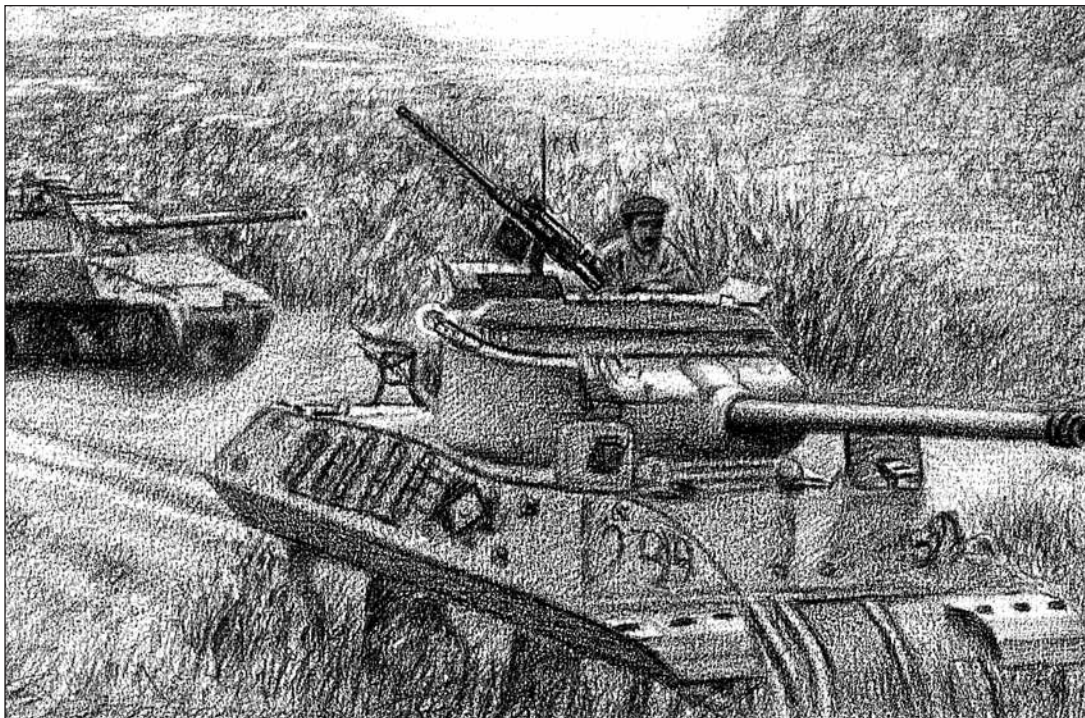
23rd Division's main effort along the foothills to the north was



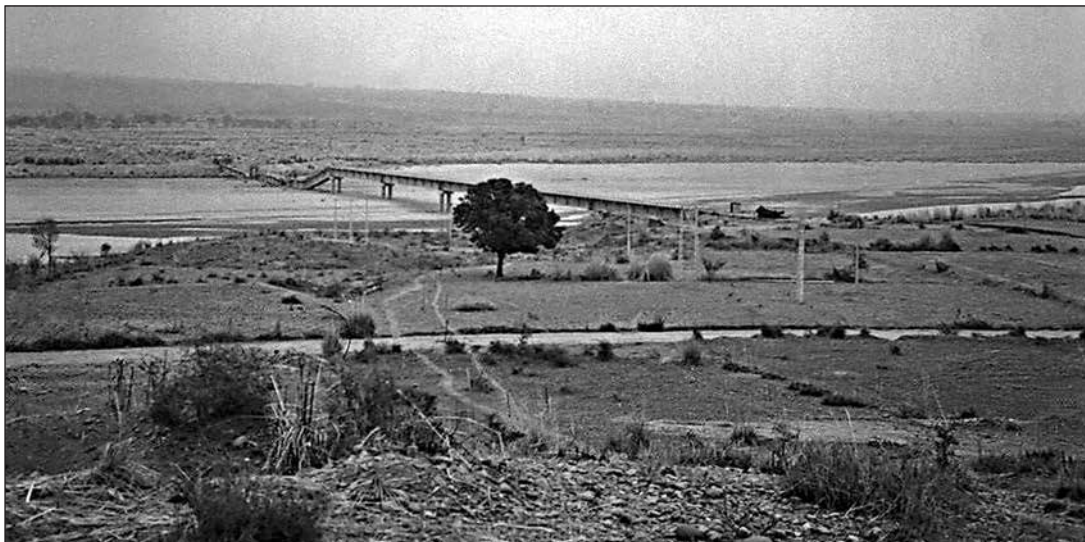
A collage depicting M4 Shermans of the 26th Cavalry advancing towards Phagia Ridge on 4 December. Mandiala can be seen in the centre background.

with 66th Brigade Group with four battalions, 11th Cavalry commanded by Khurshid Ali Khan, and a squadron of 26th Cavalry. This was too large a force to control by an infantry brigade, which had the dual task of first establishing a bridgehead and subsequently advancing up the river. Consequently, the brigade further grouped 4th Punjab and the Sherman squadron under 11th Cavalry which now created problems of command and control for this tank regiment. All the while, the headquarters of 2nd Armoured Brigade was available but not utilised. Mixing Shermans with a T-59 regiment was also an unnatural marriage, and the squadron of 26th Cavalry remained under-utilised. The remaining squadrons of 26th Cavalry were parcelled out to the brigades operating on the central axis leading from Koil-Moel to Chhamb, and in the south towards Munawar Post and extending all the way to an enclave across the Tawi at Thako Chak. Breaking up the regiment diluted the combat effectiveness of the old Shermans whose limitations could have been overcome to a degree through their concentrated employment. Thus, at the commencement of the war, like the headquarters of 2nd Armoured Brigade, the regimental headquarters of 26th Cavalry was a floating headquarters with a recce and support company, and an independent squadron of M36B2s that had arrived just before the war. Having proved to be the proverbial millstone in 1965, it was an ill-considered decision by the Army to field these tanks again in 1971.

11th Cavalry broke out a little before first light on 4 December and had an uninterrupted advance until it contacted Mandiala Ridge, which guarded the approach to the bridge over the River Tawi. The ridge, which was split into two portions — a north and south — had been developed as a strong point by 5th Sikh Battalion, and on the morning of 4 December it was reinforced by a troop of Deccan Horse with a second troop further south on the Phagla Ridge. Two tanks of its regimental headquarters occupied the small hamlet of Gura, 1,000 meters west of Mandiala. Concurrently the Indians also reinforced the central and southern defences with a squadron of 72nd Armoured Regiment, and there were now over two squadrons of T-54B/55s facing two under-strength Sherman squadrons of 26th Cavalry. The southernmost squadron had detached a troop of four tanks which was deployed across the Tawi to deny the Indians the salient at Thako Chak.



M36B2s of Manto Force advancing through the Sukh Too Nallah on 5 December 1971.



The bridge over the Tawi River. To the right is the flood plain of the river through which the attack was launched.



A Sikh flag captured at Sakrana Cantonment and now on display at the Quarterguard of 11th Cavalry.



Wreckage of a Sukhoi Su-7 fighter-bomber of the Indian Air Force shot down in the Chhamb salient during the 1971 War.



General Tikka Khan, Chief-of-Army-Staff, seen while departing Chhamb Police Station during a visit to 23rd Division after the 1971 War.



Indian T-54B/55s captured during the Battle for Chhamb, seen after being pressed into service by 26th Cavalry and 28th Cavalry after the 1971 War.

As 11th Cavalry closed up on Gura and the Mandiala Ridge, it drew strong direct and indirect fire, and a number of tanks were hit. In a quick but well-coordinated attack, two troops of tanks assisted two companies of 4th Punjab to capture an extension of Mandiala North overlooking the banks of the Sukh Tao Nallah. However, the main ridge that dominated the track leading to the bridge over the river was held strongly, and an effort to manoeuvre from the south did not succeed because of the fractured terrain and tall elephant grass. Unfortunately, the remaining battalions of 66th Brigade, which could have captured this feature, had not moved forward. It had been an unsuccessful day for the division. The main effort had

stalled with 11th Cavalry losing 11 tanks, of which 8 were totally destroyed. On the other two axes, the infantry brigades with their squadrons of Shermans had made very little progress.

That night, 28th Cavalry arrived from the Sialkot Sector. It was the reconnaissance regiment of 6th Armoured Division and commanded by Abdul Hameed Dogar. There is no record available regarding when and for what purpose the regiment was released to 23rd Division, but it was with restrictions imposed by General Headquarters that stated that 28th Cavalry would not be used for offensive operations. It can therefore be conjectured that it was initially placed for the security of the base against an Indian counter offensive. Since the offensive was not progressing well, General Headquarters may have subsequently allowed 23rd Division to use it for capturing the salient. However, the division commander —Major General Eftikhar — who was always near the front line was not content with such a limited objective, and was determined to push across the Tawi to capture Palanwala.

With the advance checked, on the night of 4 December, an Azad Kashmir brigade with two battalions was pushed through the rough bed of the Sukh Tao Nallah to assault across the Tawi; and establish a bridgehead. The operation was supported by Manto Force, which

consisted of two tanks of the regiment headquarters of 26th Cavalry and a much-depleted squadron of M36B2s. After a long move on tracks from Gujrat, 28th Cavalry had arrived behind 11th Cavalry at Pir Mangowali by midday of 4 December. It had only 31 tanks, that were organized into two squadrons, and was tasked to breakout from the bridgehead and capture Palanwala. However, the bridgehead operation was a disaster. Only 13th Azad Kashmir Battalion assaulted across the river and though it captured its objective and created a great deal of confusion amongst the Indians defending their home side of the Mandiala crossing, the Indians rallied. A large number of troops were captured, including the commanding officer, and the remainder trickled back. Manto Force, which was inadequate to perform its assigned task, lost four of its six tanks short of the river. However, the situation presented in the division headquarters on the morning of 5 December was that the bridgehead had been established but it was under pressure, and that 66th Brigade during the night had closed up to the line of the river. None of this was correct.

Therefore at first light when 28th Cavalry headed for the bridgehead from Kaumali Chappar, within 600 meters it had lost its right forward troop to tank fire from Mandiala South. Shortly after, the leading squadron lost another couple of tanks. An R&S company that was following behind was also caught in the fire and lost seven recoilless rifles. 11th Cavalry, which was also engaging the Mandiala Ridge, lost a couple of more tanks. Like 11th Cavalry a day earlier, 28th Cavalry also tried to manoeuvre from the south, but the terrain between Mandiala South and the small Indian cantonment at Sakrana was near impassable for tanks. The two T-59 regiments of 23rd Division were now stuck in a small area west of Mandiala unable to move forward or manoeuvre from the flanks.

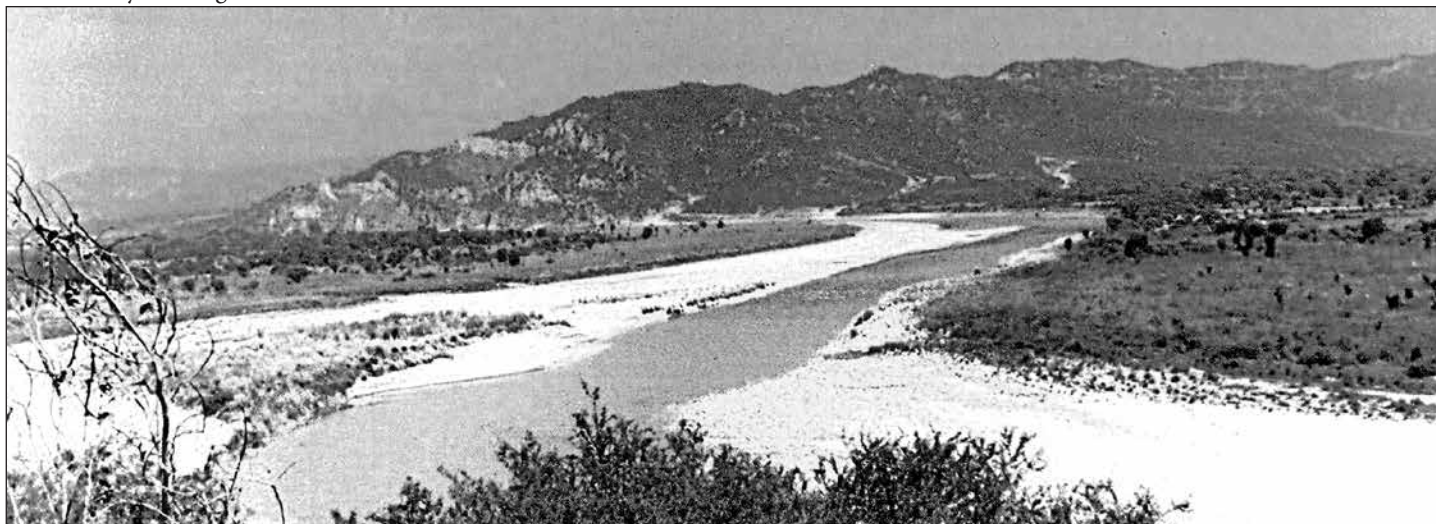
At this point in time the Indian 191st Brigade and its division headquarters must have been feeling quite confident about holding the salient, which had been reinforced by additional armour and infantry. Its battalion of 5th Sikhs, supported by tanks of Deccan Horse, had stalled 23rd Division's main effort and destroyed a number of tanks. However, the Indians were not aware of the arrival of 28th Cavalry and the battle-winning change in plan conceived by General Eftikhar. On the night of 5-6 December, 28th Cavalry, a squadron of 11th Cavalry, the squadron of 26th Cavalry which had been under command 11th Cavalry, and two infantry battalions were extricated, moved 25km to the south of Koil-Moel, and launched an attack at dawn under the headquarters of 2nd Armoured Brigade. The assault was on two axes with an infantry battalion and the squadron of 26th Cavalry heading towards Barsala, and the main effort with the

remaining force towards Chak Pandit. On either side of the armoured brigade group, two depleted squadrons of 26th Cavalry were also attacking along with infantry, one towards the Phagala Ridge and the other towards Jhanda Post, thus drawing Indian armour away from the main effort. However, it was the continuous pressure applied by 11th Cavalry that kept the Indians believing that the Pakistani armour was still contained at Mandiala. Therefore, when the Assam battalion deployed on the Barsala Ridge, reported the presence of a large number of Pakistani tanks, the headquarters of the Indian 191st Infantry Brigade took it as a case of 'jitters'. Nonetheless, the combined effect of enemy fire and a hurriedly laid minefield checked the advance of 28th Cavalry short of the Barsala Ridge. While engaging the Indians, its squadrons started extending towards the flanks and spent the morning trying to find a gap. By now, the Indians had recognised the emerging threat and inducted another squadron of 72nd Armoured Regiment into the salient. Time was passing and finally 28th Cavalry was ordered to assault through the minefield with the full support of the divisional artillery. This assault, in which only three tanks were partially damaged, unhinged the Indians and by the evening Chak Pandit had been captured. It was too late to either cross the Tawi or capture Chhamb, and with the problems of locating and mustering the infantry battalions, the armoured brigade established a tight defence to guard against a counterattack. However, that night the Indians abandoned the salient.

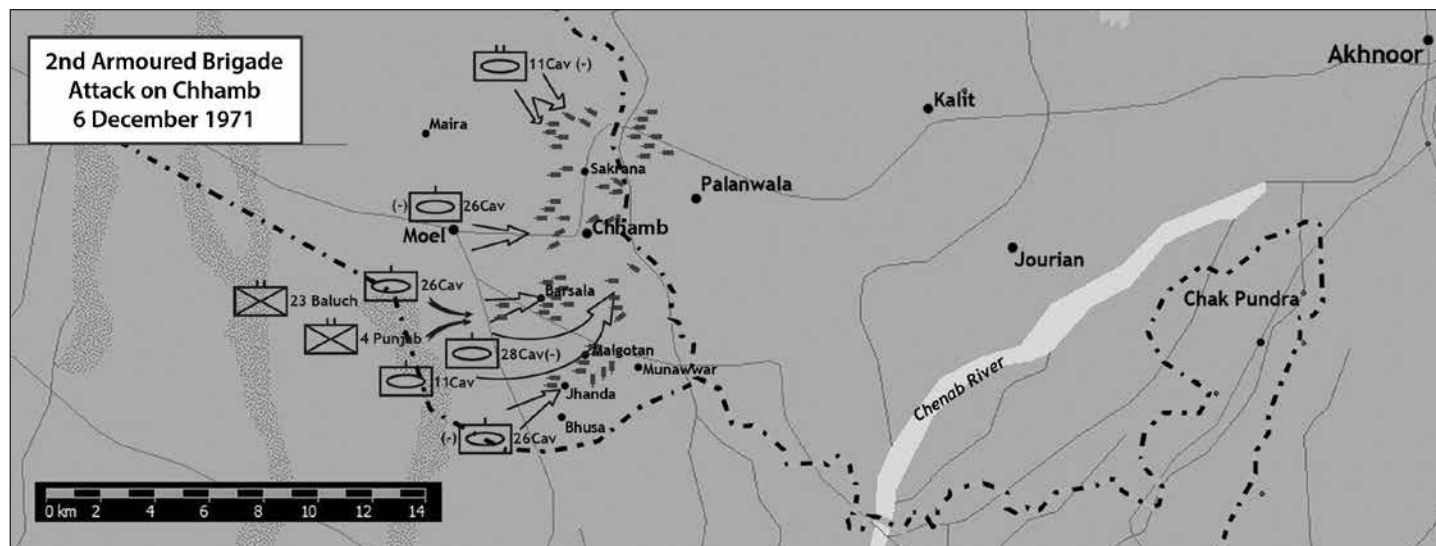
The next morning Chhamb was occupied, and by the afternoon orders followed for an attack across the Tawi for the same night. 28th



An Indian bunker at Mandiala, which was a part of the strong defences covering the northern approach into the Chhamb Salient during the 1971 War.



Junction of the River Tawi and Sukh Too Nallah, as viewed from Mandiala North. It was the area of attack by Manto Force and 13th Azad Kashmir Battalion during the night of 4-5 December 1971.



Attack by 2nd Armoured Brigade in the Battle for Chhamb. The deployment of Indian armour as of the morning of 6 December 1971 is based on a map captured during the war. (Map by Tom Cooper, based on Maj Gen Gurcharan Singh Sandhu, *The Indian Armour*)

Cavalry moved into the Forward Assembly Area near Chak Pandit, but the infantry battalions did not arrive. Having moved all the way on foot from the north and attacked alongside 28th Cavalry, they were exhausted. Therefore, the attack was postponed to the next night and then again to the following night. Unfortunately, in the afternoon of 10 December, while Major General Eftikhar's helicopter was landing, its tail rotor struck a tree and crashed. The general was fatally injured and passed away in the hospital in Kharian. In spite of the tragic loss of its GOC, the division's assault across the Tawi was launched, but it was now the third night since the Indians had abandoned the salient and their defences across the river, which had initially been in a state of disarray, were better organized. A Jat battalion was in defence and apart from the remnants of Deccan Horse, two squadrons of 72nd Armoured Regiment were also available. 28th Cavalry crossed the river at night overrunning positions of the Jat battalion, which inflicted casualties on both tanks and troops, and slowed the build-in by the regiment. 28th Cavalry launched a spirited and successful attack within the lodgement to clear the Indian position at Dhar, and from first light onwards was involved in a fire fight with the Indian tanks in which both sides suffered casualties. In spite of this, the regiment organized itself for a breakout towards Palanwala. Around midday, 23rd Division received orders to withdraw all troops west of the river and the regiment reluctantly started moving back. Since the night it had arrived in the sector the regiment had been constantly in operation and within a span of five days it had launched three attacks. For a young regiment that went into battle with only 31 tanks, it had performed well-above expectations. In the afternoon, the Indians launched a two-pronged counterattack with an infantry brigade supported by two squadrons of tanks. However, their tanks encountered the same problems in the flood plain of the River Tawi that 28th Cavalry had faced and many bogged down. With the Indian offensive pressing ahead in the Shakargarh salient, 11th Cavalry along with other the resources of I Corps that had been sent to support the offensive in Chhamb were withdrawn and 23rd Division stabilised its defences on the line of the River Tawi. The Indian Air Force, which had been very active since the beginning of the war, put in an extra effort to blunt the assault across the Tawi, but the limited airspace over a narrow battle area of 16km front, meant only one mission could go in at a time. The Tactical Air Centre attached to the Indian XV Corps sent in four Su-7s every half an hour, each mission spending about ten minutes over the target area conducting strikes against ground

targets. The effect that it actually had was minimal and did not justify this substantial effort. During a flag meeting in the Chhamb Sector after the war, when notes were compared on the battle, the Indians were disappointed by the actual results of these strikes. The terrain provided plenty of cover and the tanks' anti-aircraft machine guns were so effective against low-flying aircraft that they shot down three Indian fighters.

The offensive in Chhamb was a short battle fought over a very limited area and did not achieve the results that the commander of 23rd Division had expected. However, for all time to come, the Army was able to eliminate the threat of the Indians rushing for the GT Road through the Chenab-Jhelum corridor or, as it was referred to in the 1950s, the 'Munawar Gap'. The officers and tank crews fought well; displaying the cavalry spirit that is the hallmark of the Armoured Corps, and were rewarded with a number of gallantry awards. However, 11th Cavalry was unfortunate in not being given its due recognition for a battle it fought so well. Since it returned to its parent formation during the war, after the conflict its citations could not be routed through the headquarters of 23rd Division.

A Futile Desert Duel

Linked in time but not in space to the offensive in Chhamb, 700km to the south another division-sized operation supported by armour was launched through some of the worst desert terrain in the Cholistan belt. The aim of this Pakistani operation was to disrupt an expected Indian offensive threatening the main lines of road and rail communication, which ran close to the border. It involved two brigades of 18th Division supported by 22nd Cavalry equipped with new, Chinese-made Type-59 tanks, and two squadrons of 38th Cavalry with M4 Shermans that were decidedly incompatible with the task assigned to them. The operation had been conceived sometime in October 1971; and to enable the formation to undertake this advance through the difficult terrain, air as well as logistic support had been agreed to by the army and air headquarters. There was a mismatch in equipment between the two armoured regiments, and based on its assessment of the terrain and Indian deployment, the division could not decide who should take the lead. Initially 38th Cavalry commanded by Zaheer Alam Khan was to seize Ramgarh, 60 km inside the border, and then 22nd Cavalry — commanded by Akram Hussian Sayed — would capture Jaisalmer, another 100 km further southeast. However, it was subsequently assessed that the main tank battle was likely to take



ZA Khan: commander of the 38th Cavalry during the 1971 War.

place at Ramgarh and since 38th Cavalry was poorly equipped, 22nd Cavalry would take the lead. With this change of tasking, 38th Cavalry now had a total distance of 192km to traverse on track from the rail head at Reti to Jaisalmer, of which 100km was through the desert. The launching of the offensive was a stop-go affair. A day before, during an 'O' Group at the headquarters of 18th Division, the air liaison officer informed the gathering that no air support was available because the airfield at Jacobabad had not been activated. There was a discussion on calling it off, but the General Headquarters did not agree and stated that 'it was in the national interest.' Analysts speculate that GHQ hoped that this offensive would draw the Indian strategic reserves southwards, thus creating favourable conditions for the launching of an offensive by II Corps.

22nd Cavalry arrived at Reti by train on the night of 2 December and so did 38th Cavalry from Sadiqabad with only 14 Shermans. A squadron had been detached to the Chor Sector, and squadron strength of tanks was unserviceable. Both regiments moved to Gabbabr the next night with 38th Cavalry following 22nd Cavalry, and arriving with 13 tanks (one broke down on the way). No infantry had arrived and the operation was postponed for 24 hours. Apparently, at this stage, the mission of 38th Cavalry was also curtailed until the line of Loganewala and the objective of Jaisalmer was assigned to an infantry battalion group. It was just as well because when 38th Cavalry moved forward on the night of 4 December, by the time they arrived at Masitwari Bhit (6 km from the border), it was left with just six tanks and its recce troop. 22nd Cavalry had been in the lead and topped up with fuel at Masitwari Bhit from diesel drums carried on its tanks. It also carried an infantry battalion, as trucks could not

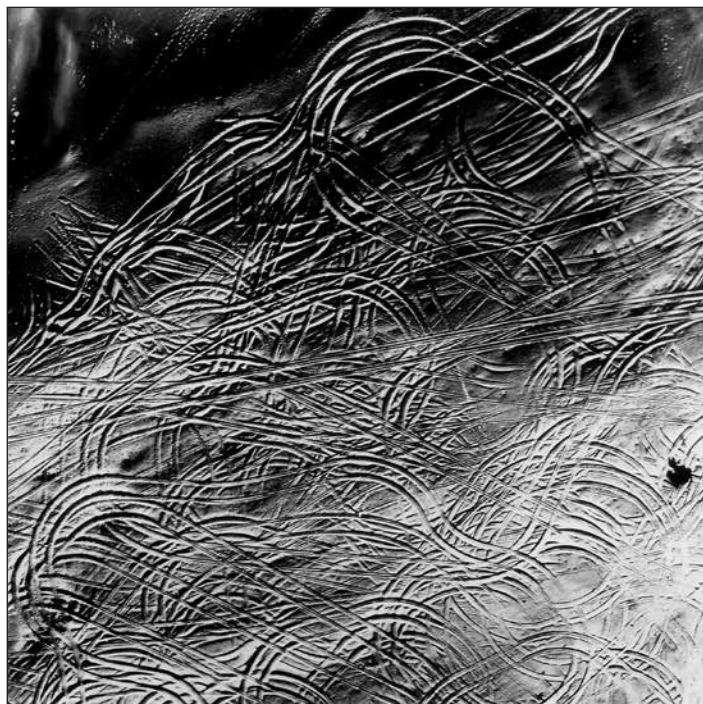
have accompanied the column through the desert. The remaining infantry was struggling to march forward on foot and only one battery of 130mm guns had been able to deploy forward to support the operation. In the words of ZA, who was commanding 38th Cavalry, 'The operation so far had been a movement fiasco'. It took all of 5 December for the infantry to arrive, marching through the sand, as no vehicles were available. Even if they had been, it would have been impossible for them to drive through the desert.

18th Division had little information on the Indian forces that it was likely to encounter, but a rough guess placed an infantry battalion and a squadron of tanks at Loganewala to guard the left flank of their division facing Rahim Yar Khan. In actual fact, an Indian division had been tasked to conduct a limited offensive towards Rahim Yar Khan. At the same time as the offensive by 18th Division crossed the border on 5 December, an Indian combat group of an infantry battalion along with two squadrons of 20th Lancers, equipped with AMX-13s, and an independent armoured squadron was moving north to Kishengarh for an advance towards Islamgarh. A squadron of 20th Lancers remained in reserve with the holding brigade and a troop of AMX-13s from a tank delivery unit was located at Sadawala, 17 km northeast of the Loganewala. The Indians were unaware of the build-up of 18th Division, as no recce sortie had been flown on the evening before on the axis of Gabbar-Loganewala. Since there was no air cover available, 22nd Cavalry crossed the border near midnight and started its advance towards Ramgarh. An Indian border post reported the sound of tanks to its company located at Loganewala. When the information flowed up to the division headquarters, it ordered the company position to be reinforced by the troop of AMX-13s based at Sadawala, an additional infantry company and a battery of artillery. Concurrently the airbase at Jaisalmer, which had just two Hunter aircraft, was placed on alert. Instead of heading east towards Ramgarh, during the night the regiment drifted southeast, and at first light a sortie by an Indian observation aircraft reported that tanks had invested Loganewala.

The Indian account of the ground battle varies considerably. Most early sources described a valiant action by the Indian troops defending Loganewala for which the company commander was awarded India's second highest medal for gallantry. However, officers of the Indian Army, as well as the Indian Air Force, who were present at the scene of



Crews of 22nd Cavalry loading ammunition before the attack. Visible to the left is their CO, Akram Hussain Sayed.



Tank tracks left behind by vehicles of 22nd Cavalry as the regiment attempted to evade the Indian aircraft while exposed in the open desert.

action now admit that all the casualties suffered by 22nd Cavalry were from only four Hawker Hunter fighter-bombers of No. 122 Squadron, Indian Air Force, which arrived over Loganewala at first light. Between then and the afternoon, the Hunters flew four sorties directed by the air observation aircraft and destroyed tanks at will. The dust and sand jammed the 12.7mm anti-aircraft guns and five tank commanders were killed in the air attacks while trying to cock the machineguns with their feet. Ultimately, the machineguns were washed with diesel to clear the blockages, but the 12.7mm ammunition carried by each T-59 was soon exhausted.

In spite of the presence of the Indian aircraft, a squadron of 22nd Cavalry, along with a company of 38th Baloch, launched an attack to capture Loganewala, but the Hunters destroyed five tanks and strafed the infantry. A second attack also stalled when six more tanks were destroyed as they formed up. The commanding officer of 22nd Cavalry wanted to launch a third attack, but after a heated argument, the brigade commander ordered the tank regiment and the infantry to withdraw. The Hunters flew two more sorties in the afternoon and destroyed six more tanks of the squadrons that were withdrawing. Over the next couple of days, the Pakistani forces limped back towards the border constantly harassed by the Indian Air Force, and their ground troops cautiously followed up.

The Battle for the Shakargarh Salient

In the Sialkot Sector, I Corps was defending with two infantry divisions — 8th and 15th — with 8th Independent Armoured Brigade in reserve and located at Chawinda. Apart from the three regiments of the armoured brigade — 13th Lancers, 27th Cavalry and 31st Cavalry — which were all equipped with M47/48s, the Corps had three more armoured regiments. 32nd Cavalry with M47s was with 15th Division, 33rd Cavalry with M47s with 8th Division, and 20th Lancers with Shermans was the corps recce regiment. 6th Armoured Division was initially located in Gujranwala with only two armoured regiments of T-59s — 24th and 25th Cavalry — and a depleted 11th Cavalry re-joined it from Chhamb around 11 December. The offensive that was undertaken by the Indian I Corps in this sector was essentially a

protective manoeuvre to ensure security of its base at Pathankot and the corridor leading to Kashmir. It was launched in the Shakargarh Salient with two mountain divisions (which had no integral tank regiments), and two independent armoured brigades — each with three armoured regiments and a troop of trawl tanks for clearing mines. However, an armoured regiment was detached from each brigade to support five brigades protecting the flanks of the manoeuvre. 54th Division with the Centurion tanks of 16th Independent Armoured Brigade advanced between Deg and Karir Nallah with the aim of capturing Zafarwal, and 39th Division on its left between Karir Nallah, and Bein with 2nd Independent Armoured Brigade, with T-55 tanks, aiming to capture Shakargarh. This force had to overcome three minefield belts with the first two 600-800 meters deep, running approximately parallel to the border, and separated by eight kilometres. The third which had a depth of 1,200 meters and on which the main defences rested, ran eastwards from the Deg, keeping north of the Zafarwal-Shakargarh road. It then turned south along the Bein.

On 3 December, Nisar Ahmed who was commanding the Armoured Corps Centre, was despatched by the General Headquarters to organize a brigade-sized group named Changez Force for fighting the covering troop battle in the Shakargarh Salient. He was provided with a headquarters staff consisting of the brigade major, Major Zafar Mir, the deputy quartermaster, Major Yahya Effendi and the GSO-3, Captain Ahsan Saleem Hyat. Having so brilliantly commanded 25th Cavalry in 1965, he was recognised as one of the most battle experienced combat commanders in the Armoured Corps, and in spite of being given such an important mission just a day before the war started, his performance was again outstanding. Changez Force consisted of 20th Lancers with 35 Shermans and commanded by Muhammad Tufail, 33rd Cavalry with 41 M47s and commanded by Abdur Rehman, and 13th Punjab, a standard infantry battalion. Its mission was to cause maximum delay and attrition from the border to the line of Zafarwal – Shakargarh, but was open ended in time. Operating from a small ad hoc headquarters, and with very sketchy information about the Indian forces, the commander had only 48 hours in which to organize the battle, select delaying positions, coordinate the operations, and a multitude of other actions. 20th Lancers with its Shermans held the first minefield belt. Like 25th Cavalry in the same sector during the 1965 war, it had trained extensively in this area and knew it like the palm of its hand. So also did 33rd Cavalry which held the second belt with its M47 tanks. Because of the large frontage of over 16km, the regiments deployed all their squadrons abreast. Only three infantry companies were provided in support, but since 20th Lancers was a recce regiment, it had its own rifle troops for local protection of the tanks at night. There was adequate artillery support, but a restriction was imposed on the ammunition. The village of Tola in the centre of the third belt was considered as the lynchpin of the entire effort, and held in strength by 13th Punjab.

The Indians crossed the border on the night of 5 December and 20th Lancers succeeded in imposing a delay of 24 hours before falling back to the second minefield belt. Here it beefed up the defence by plugging in the gaps between the squadrons of 33rd Cavalry. On 7 December, a squadron of 33rd Cavalry deployed between Karir Nallah and the Bein River repulsed an attack, and its M47s destroyed four T-55s. This corridor was now the focus of the main effort by the Indians to breach the minefield and in the early hours of 8 December a battalion-sized attack on Harrar supported by tanks was repulsed with heavy casualties. With squadrons both from the armoured and recce regiments operating alongside, the force commander ensured that they coordinated their deployments and also reinforced the positions with a company from 13th Punjab. Having failed to carry

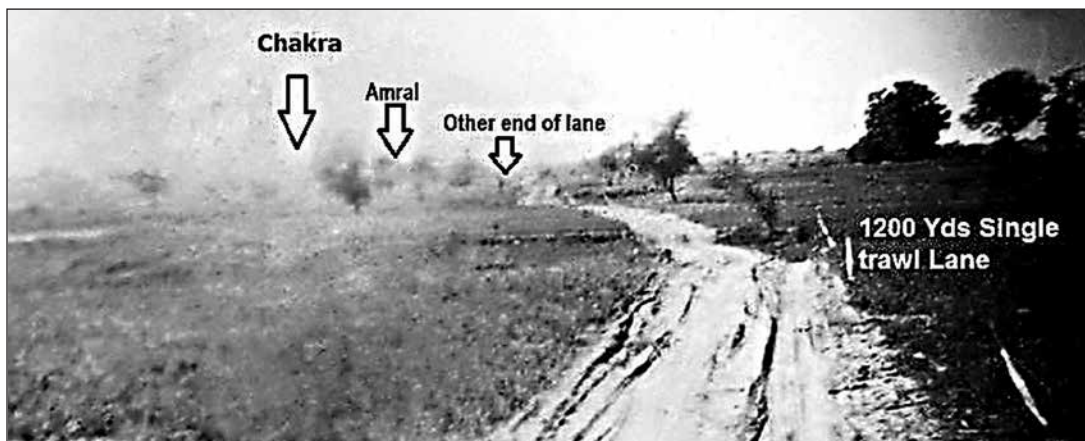
Harrar, late in the afternoon the Indians sidestepped 1,800 meters eastwards and tried to breach the minefield with trawls in the area of Shahbazpur. The trawls were shot-up and one of them abandoned in the middle of the minefield was recovered by the defenders the next day. Apart from the dogged resistance by the defenders, two obstacles bedevilled the Indians; one natural and the other man made. The natural was the boggy terrain due to the numerous watercourses that ran down from the foothills to the west. It channelized the Indian armour, and restricted their ability to manoeuvre. The manmade obstacles were the successive layers of minefields whose depths surprised the Indians. Not only did their trawl tanks find it extremely difficult to breach these minefields, the supporting elements took an inordinate time to catch-up leaving the armour very exposed.

Through 9 December, the Indians kept applying pressure on Changez Force. The up-front presence of the commanders on the battlefield ensured that if the troops wavered, the situation was immediately stabilised. According to his deputy quartermaster, Yahya Effendi, 'Brigadier Nisar Ahmed possessed this unique quality of moving towards the sound of the guns, something very few officers have a proclivity for'. 10 December marked the seventh day since hostilities had broken out and the fifth day of the Indian offensive in which Changez Force had contained their advance to within 5 km from the closest point on the border. More significantly, it was the day that Sowar Muhammad Hussain of 20th Lancers earned a posthumous Nishan-e-Haider when the Indians tried to assault across the minefield west of Harrar with a tank-infantry group. When the Dodge truck in which he was delivering ammunition to the 106mm recoilless rifles was destroyed, under great danger he repeatedly and boldly assisted in locating Indian tanks that were dug in. He was just 22 years old and the first soldier in the Pakistan Army to be awarded a Nishan-e-Haider.

On the night of 10–11 December, in a coordinated attack by brigades from both their advancing divisions, the Indians finally captured the line of Chakra-Harrar and during the following day, Changez Force withdrew in good order to the main defences. However, a squadron of 33rd Cavalry was embroiled in a fierce running battle during the rear-guard action. By now, the regiments had lost a little less than half their strength and Changez Force was tasked to support the brigades defending Zafarwal and Shakargarh. The position at Tola held by 13th



Contrary to its motto, 'Bash on Regardless', the Indian 54th Division and its armour spearheading the offensive took 12 days to advance 12 kilometres.



A mine-field lane cleared by the trawl tanks of 7th Light Cavalry towards Chakra. Picture and notations are by JDS Jind, who was commanding the unit at the time.

Punjab was reinforced by placing a squadron of 20th Lancers within its defences, with the other two squadrons of the regiment deployed on either flank. 33rd Cavalry, which was now reorganized into two squadrons, was in reserve and concentrated eight kilometres southwest of Shakargarh. It was consequently well placed to respond to a threat that was emerging to Shakargarh from the east and southeast. Without any resistance, an Indian division had established a bridgehead across the River Ravi and by 10 December captured Nainakot. The next day it advanced towards Shakargarh with a supporting effort from the direction of Ikhlaspur. On receiving information on the morning of 13 December, that a battalion deployed south of Nurkot was under pressure, 33rd Cavalry moved and arrived in the evening to stabilise the situation. The Indians now closed up on Shakargarh and on the night of 13–14 December, a company of 4th Grenadiers infiltrated into a village on the outskirts of the town. A battalion of 14th Para Brigade with a troop of 33rd Cavalry surrounded the company, which surrendered. Next night the Indians launched a two-pronged attack on Shakargarh. The attack by 4th Grenadiers stalled, and the 3/9th Ghurkhas suffered heavy casualties.

The operations of Changez Force and the success it achieved are best summed up in the report by a committee on the 1971 War. The committee headed by Lieutenant General Azmat Bakhsh Awan, the

commander of I Corps (1974-76), carried out a Military Analysis of the 1971 War. The report stated:

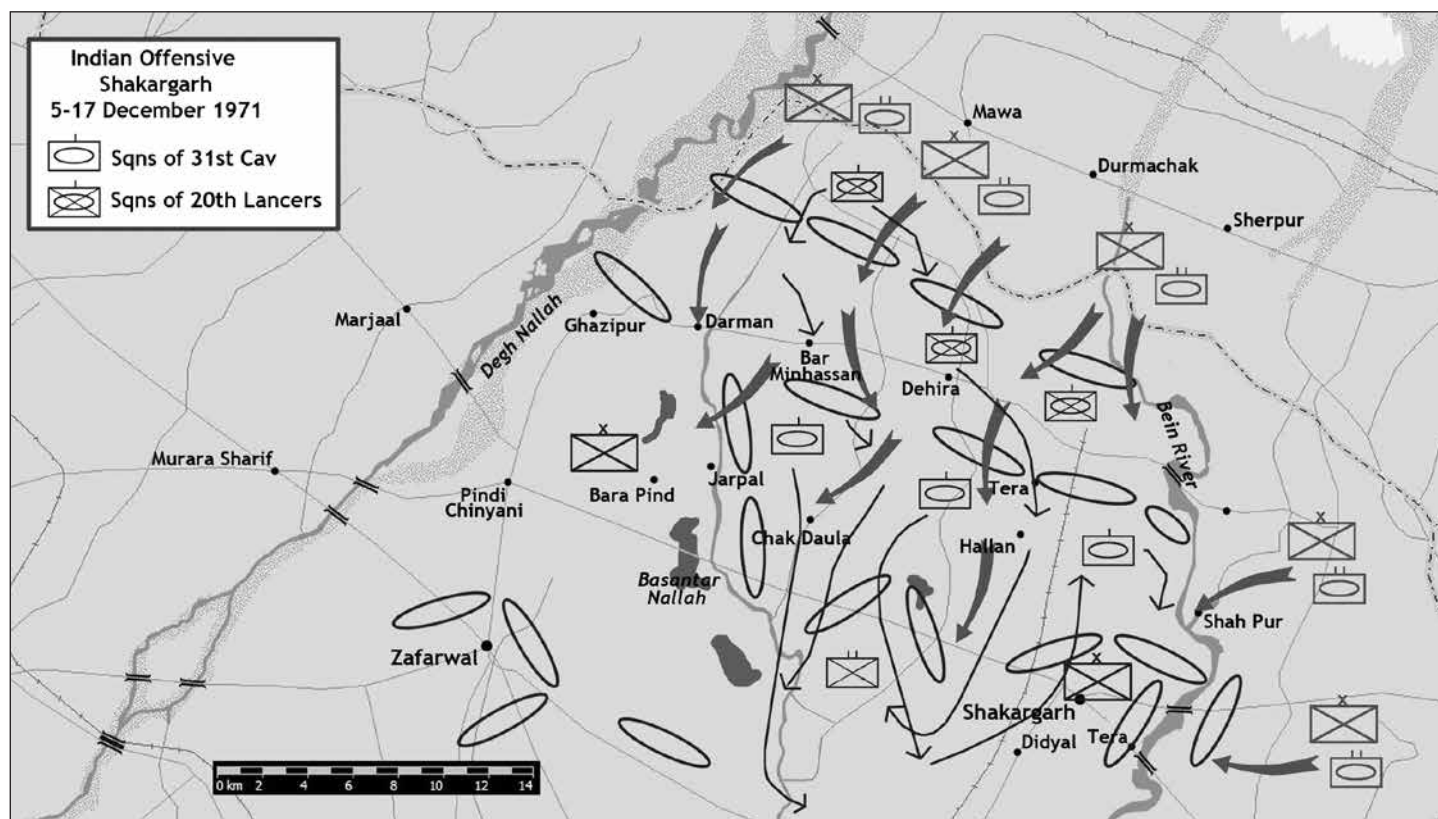
Changez Force, more than accomplished its mission. It was required to cause maximum casualties and delay the enemy for 24 hours at first layer and 48 hours at the second layer of minefield. In fact, it delayed the enemy for nearly seven days. An excellent feat when considering that one regiment was equipped with Shermans and the other with M-47 tanks. They were matched against T-55 and Centurion tanks. Outnumbered, they succeeded with sheer guts, determination, and ingenuity.

Counter-attack by 8th Independent Armoured Brigade

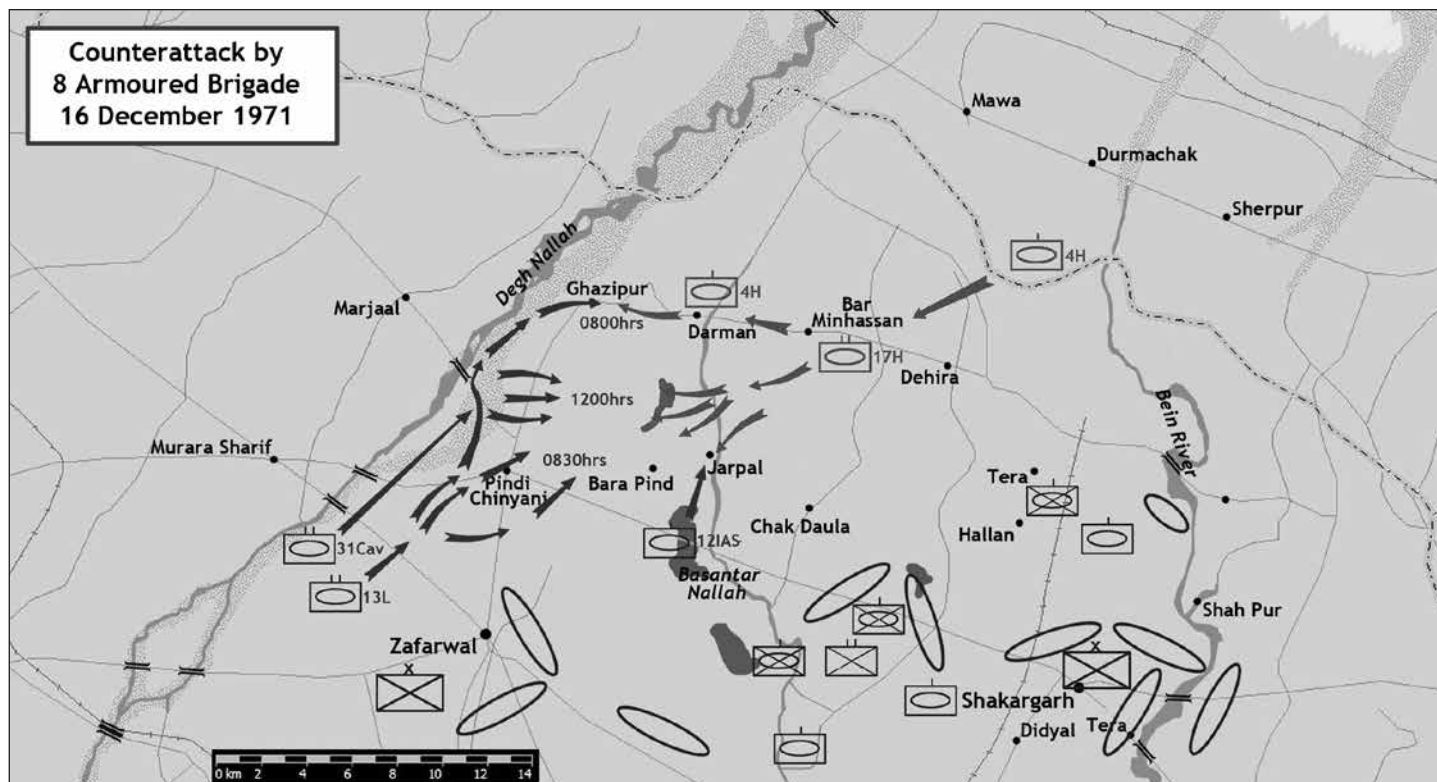
After having captured the Chakra position, the Indian 54th Infantry Division continued its advance on the west of Karir Nallah towards the Zafarwal-Shakargarh road, and by 13 December had crossed the second minefield layer. Its left forward elements, consisting of a battlegroup of Poona Horse, was tasked to cut the road at Barwal, but having fought halfway, was recalled to support an attack towards Zafarwal across the last minefield belt which was also the I Corps 'Line of No Penetration'. The defence by 24th Infantry Brigade in this sector rested on a minefield with the shape of an inverted 'L'. The horizontal leg ran along the Sakror Bund (an anti-tank ditch-cum-bund, which extended from Degh Nadi to the Basantar Nallah), and from Lalial the vertical leg extended southwards along the west bank of Basantar. The right forward brigade of the Indian 54th Division was tasked to establish a bridgehead across the Basantar north of Barapind with a second infantry brigade breaking out to capture Zafarwal. Poona Horse was to support the bridgehead operations. In the early part of the night of 15-16 December, an Indian brigade successfully assaulted across the minefield, but faced a stiff fight to capture Jarpal, which was the left extent of the bridgehead. However, there was little resistance in establishing the right shoulder of the bridgehead opposite Lalial, and a Recce and Support Company of 24th Brigade, which was holding

the area between Jarpal and Lalial withdrew without a fight. Poona Horse was rushed across the minefield through a partially completed lane to counter a perceived tank threat to the infantry brigade and a squadron assaulted through the Lalial Reserve Forest at night to secure its western edge. By the morning of 16 December, the Indian infantry brigade had three battalions holding the bridgehead along with Poona Horse, which deployed two squadrons on the periphery with a third in reserve. However, some elements that had penetrated up to Barapind, south of Jarpal, were evicted by 14th Independent Armoured Squadron equipped with M36B2s, which had arrived in the area a day before and moved forward to reinforce the infantry defences.

8th Independent Armoured Brigade was commanded by Muhammad Ahmed who had earned a gallantry award in the same sector in the 1965 War. The brigade had been around Pasrur until 2 December, and from the time the war commenced, for the next ten days it carried out three night moves at short notice averaging 15 km each night and under conditions that placed a considerable strain on the crews and equipment. By 12 December, it was at Fatowal, 15km southeast of Zafarwal and on 15 December it began to prepare for a counterattack between Bein Nallah and River Ravi 'to recapture lost territory'. However, on 16 December at 04:30 it was suddenly informed about a breach in the defences of 24th Brigade. The assessment of the Indian troops in the bridgehead was one infantry battalion and a squadron of tanks. The brigade was familiar with the area of operation of I Corps, but the recce it conducted before the war were not related to any specific tasks, probably because of the defections of the soldiers from East Pakistani and their continued presence in the units. Consequently, the brigade had only a general idea of the corps defences and its counter-attack plans and objectives. The brigade was tasked to 'restore the situation with minimum force' and it ordered 13th Lancers commanded by Syed Masood Ahmed to establish a counter-penetration position. The commanding officer of 13th Lancers, after a briefing from 24th Brigade, ordered 'A' Squadron



Indian attacks on the 20th Lancers and 31st Cavalry at Barapind. (Map by Tom Cooper)



Counterattack of 8th Armoured Brigade. (Map by Tom Cooper)

to counter the penetration by deploying in Pindi Chanian west of Jarpal, which was reportedly held by the Indian force of a battalion and squadron. It seems at this stage that 24th Infantry Brigade became aware of the Indian presence in the area of Lalial Forest and the orders that flowed down to 13th Lancers from the headquarters of 8th Armoured Brigade instructed the regiment to also contain this force.

Though the initial mission given to 13th Lancers was to act 'As Soon as Possible', its commanding officer was pressing the squadron commanders to act immediately; giving no time for battle procedures, reconnaissance, fire support, coordination, or liaison. To make things worse, the orders now given by the armoured brigade headquarters were misinterpreted, and 'A' Squadron was re-tasked to 'attack and destroy few enemy tanks breaking out from area Lalial'. As the squadron veered north towards Sikandarpur, it was engaged by tanks and antitank weapons from Ghazipur, and its surroundings. Taken by surprise and with no air or artillery support, it lost eight tanks, and two officers were killed and another injured. The task originally given to 'A' Squadron was passed onto 'C' Squadron following behind, but before it could deploy into a counter-penetration position in Pindi Chanian, the orders were amended and along with 'B' Squadron, it was ordered to attack Jarpal. Launched from the south and south-west, the attack failed with 20 tanks destroyed, three officers martyred and two injured. Though pressing on with a valour praised by the



Mine-clearing trowls being installed on 7th Light Cavalry tanks prior to the offensive in the Shakargarh Salient.

Indians, 13th Lancers lost another eight tanks, and two more officers were martyred and three more injured. Khwaja Nasir was awarded a Sitara-e-Jurat, and Derik Joseph a Tamgha-e-Jurat.

In spite of the fact that the near frontal attack by 13th Lancers had resulted in crippling casualties, at 12:00, 31st Cavalry commanded by Khwaja Naseen Iqbal was ordered to attack between Barapind and the southern end of Lalial Forest. This attack was more methodical and deliberate, with two squadrons providing fire support and the third attacking. However, since it was a frontal assault the squadron lost 10 tanks and within minutes of the attack, Major Allay Ahmed — the squadron commander — and Lieutenant Rashid Mirza were martyred. Severely mauled, the remnants of the two regiments went into counter-penetration while the Indians reinforced the bridgehead. 8th Armoured Brigade still had 27th Cavalry intact, and the armoured



The command vehicle of 8th Armoured Brigade with Azam Qadri, the GSO3.



Major Allay Ahmed, Shaheed, 31st Cavalry.

and infantry brigade commanders decided to launch a coordinated attack with the third tank regiment and 35th Frontier Force, an hour before first light the following morning. The battalion had moved by train all the way from Quetta and marched into the combat zone a

day before. It was late in arriving at the designated rendezvous, and since there was not enough time for marrying-up between the armour and infantry, 27th Cavalry was instructed to stand down. However, the commander of 24th Brigade ordered the battalion to attack Jarpal on its arrival. With no artillery or tank support, this brave battalion launched a daylight attack in full view of the Indian defences and suffered heavy casualties including its commanding officer, Lieutenant Colonel Akram Raja. Some soldiers fell within 50 meters of the tanks of Hodson's Horse, which had reinforced the bridgehead. That

morning a cease-fire was declared and the Indians handed over 80 bodies of 35th Frontier Force. It included the commanding officer, the second-in-command, and the adjutant.

The operations of the Pakistan Armoured Corps in 1971 were not on the same scale as those of the previous war because both the armoured divisions remained uncommitted. While two armoured regiments of 6th Armoured Division fought in the battle for Chhamb, a reinvigorated 1st Armoured Division remained eager and poised to launch a counter-offensive 'when opportunity permitted'. In the eyes of the planners, this opportunity never arose. Just as in 1965, there were both successes and failures. To conduct a successful withdrawal is the most difficult operation of war and the prize for success must go to Brigadier Nisar Ahmed, and the regiments of the covering troops in the Shakargarh Salient. The Chhamb operations were the only offensive in which the Pakistan Army achieved some measure of victory, and in spite of only a marginal superiority, the armoured regiments were successful. The most serious failure in terms of tank losses was the counter-attack at Barapind, caused by a series of mistakes that extended down from the Corps headquarters to the armoured regiments. The undeniably valiant stand by Poona Horse, which was at the cutting-edge, fully exploited the opportunity. Whether success or failure, one thing stands out in the context of the Corps. In spite of the moral and material disadvantage that the Pakistan Army and the Armoured Corps faced in 1971, the cavalry spirit prevailed and except in some rare circumstances, there was no hesitation by the regiments, squadrons, and crews to close up with and engage the Indians.

CHAPTER 7

EXPANSION AND TRANSFORMATION AFTER 1971

Compared to the rapid growth of the Pakistan Armoured Corps in the 1960s, for a decade and more after 1971, there was a drastic decrease in the pace of raising new regiments. The reason was a shortage of tanks, with demand out-stripping the pace of delivery from the Chinese. Fortunately, the Shah of Iran had agreed to upgrade the fleet of M47s, but since they were shipped to Iran in batches, it added to the shortage.

The priority for the Corps was to replace its mixed bag of tanks, including the Shermans and T-34s, in as many regiments as possible and standardise on the T-59 and its variants. However, fresh infantry divisions coming on line needed their slice of armour. Consequently, some additional tank regiments had to be raised to fill in the gaps and the only way the army could manage was to temporarily reduce

the number of tanks in the regiments. The shortage of tanks and the slow pace of raising new regiments were overcome by the events that unfolded in the 1980s. The decade from 1985 onwards witnessed the second largest expansion of the Armoured Corps after the first US aid program of the 1950s. Concurrently, some major policy decisions ensured that the new regiments were raised on a sound footing and the rotation of older regiments. The expansion within the Corps was not only limited to the raising of new armoured regiments, and new formation headquarters were also created to ensure a better articulation of command. In the process, the Armoured Corps evolved into a balanced force, both at the tactical and operational level.

Raisings After 1971

Soon after the 1971 War, the Pakistan Armoured Corps merged into regiments the reinforcement wings, tank delivery units, and the independent armoured squadrons that had been raised for the conflict. The Corps thus simplified its structure by having only two organizations: the armoured regiment and the reconnaissance regiment. As a first step the No.1 and No.2 Reinforcement Wings that had been raised for the armoured divisions during the conflict were issued a few T-59s that were available in the General Staff Reserve. However, as more arrived from China, these wings were brought up to their full complement of tanks in 1973, and upgraded to armoured regiments with the designation of 52nd and 53rd Cavalry. While 52nd Cavalry, raised by Farhat Hussain, remained with 6th Armoured Division for the next ten years, 53rd Cavalry, raised by Farooq Ali Qureshi, moved out of Multan within a year, and was replaced by 29th Cavalry. The Army had rightly decided to re-raise this regiment in July 1974. It was a fitting tribute to a regiment which had fought so tenaciously against such overwhelming odds in East Pakistan, and it was allowed to retain its original badge with the head of the Bengal tiger. The manpower consisted of its personnel who had been repatriated from India, 35th Tank Delivery Regiment, and 4th and 10th Independent Armoured Squadrons that were being disbanded. Lieutenant Colonel Samiuddin Ahmed was the first CO and was assisted by the legendary Risaldar Major Malik Nawab Khan who set very high standards for the unit. Malik Nawab came from a family that had served in the cavalry for generations, was a graduate of King George's Royal Indian Military School which was renamed after Independence as Military College, Jhelum. He retired as an honorary captain.

The next regiment added to the Corps was 54th Cavalry. It was raised under 6th Armoured Division at Kharian in 1974 by Lieutenant Colonel Syed Abdul Basit, SJ who was posted out within a few months, and the raising was completed by his successor, Jafar Khan. Jafar raised the regiment with the meticulous care worthy of an armoured regiment that was forming part of an armoured division. It was formed by amalgamating 34th TDR already based at Kharian, and the manpower from three independent armoured squadrons – 2nd, 11th, and 12th. During this period the Corps reduced the strength of tanks in the regiments, and 20 T-59s were transferred to 54th Cavalry from four regiments while the remaining 15 were released from the depot. Echoing a practice of the 1950s, the regiment was also issued T-16 Bren Gun Carriers for the basic training of tank troops. The Bren Gun Carriers were subsequently transferred to 28th Cavalry, the reconnaissance regiment with 6th Armoured Division in lieu of APCs authorised to their rifle troops. A year later, 55th Cavalry was raised for 7th Division in Peshawar by Lieutenant Colonel Amin Malik.

A major expansion program of the Indian Armoured Corps was now well underway. Having achieved parity with Pakistan by 1971, they were now rapidly gaining a lead, and within a space of six years had added seven armoured regiments. The Indian Army had

concurrently launched a program for mechanising its infantry and a threat was emerging in the Rajasthan Sector, which the Pakistan Army needed to address. The new raisings of armoured regiments coupled with some readjustments of formations and units enabled the Army to reinforce the Khokhrapar–Rann of Kutch Sector in the south. As the Army returned to its barracks after the 1971 War, the headquarters of 2nd Independent Armoured Brigade was relocated to Malir from Chhamb in 1973 and provided its slice of regiments. Two years later the Army was able to reinforce the sector of southern Punjab with additional armour. During the 1970s, II Corps had a dual task of being both a strategic reserve as well as defending the sectors of Cholistan and Reti Rahimyar Khan.¹ An infantry division had been raised at Bahawalpur for the Cholistan Sector, but with only one armoured division II Corps was finding it increasingly difficult to perform this dual role. Consequently, an armoured brigade was raised under II Corps at Multan in 1977. The first units that formed part of the brigade were 15th Lancers, which had been converted from a reconnaissance regiment to a standard tank regiment, the Guides Cavalry and the Guides Infantry. Whether by design or default, this grouping of the two units that had formed the old Corps of Guides inspired their old-guard to lobby for the brigade to be designated as The Guides Brigade. However, in spite of the Chief of Army Staff, General Zia ul Haq, having served in the Guides, GHQ turned down the proposal.

The 1970s were lean years. There was such an acute shortage of tanks that some regiments continued with equipment of Second World War vintage. Regiments like 26th Cavalry retained their Shermans until 1975, though one squadron ultimately had a mixture of 'T' series tanks. This mixed squadron consisted of some surplus T-55s that had been supplied by the Soviets in 1969, and T-54/55s that had been captured during the Battle of Chhamb in 1971, and deservedly issued to the regiment. 20th Lancers continued with their Shermans that had been issued after the 1965 War and had fought so well with them in the covering troop battle in the Shakargarh Salient during the 1971 War. It was during this battle that it became the only regiment of the Armoured Corps to earn Pakistan's highest gallantry award, a Nishan-e-Haider. 20th Lancers has the record of holding Sherman tanks for 15 years from 1966 to 1980. Equally worse off was 15th Lancers which until 1980 retained the T-34s that they had been issued in 1969. This shortage was not only due to the pace of delivery from China, but also because T-59s were now being sent for rebuild at Taxila. In addition, the M47s were also being despatched to Iran for upgrading to M47Ms, leaving some armoured regiments without tanks. 4th Cavalry, for instance, had no tanks for three years from 1977-1980. In the process of raising a few regiments after 1971, the Armoured Corps had stretched itself to the limits and it was decided to temporarily reduce the number of tanks in the armoured regiments from 44 to 35. With this reduced strength, each squadron had three troops of three tanks each with two tanks in the squadron headquarters for the squadron commander and the artillery observer. The regiment headquarters had two tanks. A reduction of nearly 25 percent created a dilemma for the regiments because the tactics did not undergo a corresponding change. Interestingly, after both wars, there was a lobby advocating reducing the squadron to three tank troops and creating a fourth squadron. This would not only have provided more manoeuvre elements for the regiment commander, it would have also offset the paucity of officer troop leaders.² During this period, Pakistan faced severe economic and financial problems, and the armed forces had to conserve on expenditure. There were no major field exercises and little fuel was provided for field training even for regiments and squadrons. Consequently, there was a long gap of ten years before the General



M47Ms in service with the Pakistan Armoured Corps.



T-59 of 38th Cavalry as seen in position in Kohat, following the Soviet invasion of Afghanistan.

Headquarters had the resources for any fresh raisings.

Three events that occurred in the 1980s were catalysts for a welcome change in the Corps. The first was the Soviet invasion of Afghanistan in 1979; the second was an unusually large-scale exercise conducted by the Indian Armed Forces in 1986, and the third was a major conflict in the Middle East, the First Gulf War of 1990–91. The Soviet invasion of Afghanistan was preceded by the coup against King Zahir Shah in 1973 and the political turbulence that followed. To safeguard the country's western border, the Pakistan Army shifted 9th Division to Kohat, and reinforced it with 12th Cavalry, the recce regiment of 1st Armoured Division. Nearly 20 years since the Guides had left Kohat for Rawalpindi, tanks had returned to this frontier garrison. Following a brief tenure, 12th Cavalry was replaced by 24th Cavalry. The regiment moved from Kharian after a stay of 14 years and was based well forward at Thal with a squadron in Parachinar. This forward deployment continued until 1987 when 21st Independent Armoured Squadron was raised and located at Thal, and 38th Cavalry (which replaced 24th Cavalry) was pulled back to Kohat.

The Soviet occupation of Afghanistan did not result in any major deployment of armour towards Afghanistan. Even if the terrain on the home side of the Durand Line could have supported an incursion by Soviet armour, the Pakistan Army had its hands full protecting the eastern borders. The US military assistance package that followed was of substantial benefit to the Corps since it contained 345 M48A5 tanks, which mostly equipped the independent armoured brigades in the desert sector. 4th Cavalry and 27th Cavalry were the first two regiments to be issued with these tanks in 1981. The T-59s that were replaced by the M48A5s were used to make up the deficiencies that had persisted in the armoured regiments since the mid-1970s. It also enabled the army to simultaneously raise three armoured regiments in 1985; 56th, 57th, and 58th Cavalry. These three regiments quickly established their credentials in the Corps for two reasons. Firstly, some of the manpower posted to these regiments had been handpicked for the 12th Khalid bin Waleed Brigade at Tabuk. The second reason was the policy of raising regiments within the armoured formations. Both these paid dividends. While it remained in Multan under 10th Independent Armoured Brigade, 56th Cavalry — which was raised by Aslam

Paunwar — continuously won the recoilless rifle sub-calibre firing competition. 57th Cavalry — which was raised by Syed Muhammad Mujtaba — won the AFV sub-calibre firing competition within the first year of its raising in 6th Armoured Division. In addition, 40th Horse, which was raised a few years later under 3rd Independent Armoured Brigade at Lahore, regularly won both the Corps AFV Main Gun as well as the Sub-Calibre Firing Competition.

While Pakistan's attention was focussed towards its western borders, in the winter of 1986 it found itself facing a concurrent crisis to the east. The cause of this was an Indian joint service's exercise named BRASSTACKS, planned close to the border in Rajasthan. The ground forces consisted of nine divisions of the Indian Army including infantry, armoured, mechanized, and RAPIDs, as well as a number of independent armoured and infantry brigades.³ The architect was the chief of the Indian army staff, Krishnaswami Sunderji, who had embarked on an ambitious plan of modernising the army in accordance with a design known as Army Plan 2000. In 1983, while heading the Army's Western Command, he had conducted a

large exercise named DIGVIJAY in which he moved armoured formations at speeds and over distances that no Indian military commander had ever attempted.⁴ As the Army commander, he now put his plan into practice. Pakistan was aware of the scale of the exercise and the build-up.⁵ However, what was alarming was the forward stockpiling of ammunition and water in large quantities, coupled with the activation of forward airfields, and the deployment of naval units. Since the exercise was conducted from east to west, there were concerns that it could transform into a full-scale attack similar to the Egyptian offensive across the Suez Canal in 1973.



The commanders of II Corps with the VCOAS during BRASSTACKS. From left to right: KM Arif VCOAS; Hameed Gul, GOC 1st Armoured Division; Raja Saroop, Commander II Corps, and Sajjad Hussain, GOC 37th Division.

As it turned out, BRASSTACKS became the first real test and validation of the operational concepts of the Pakistan Army, and the supporting organizational structure of the Corps that had developed since 1971. Most of the formations of the Pakistan Army were already in the field for their yearly winter training, and as the Indians concentrated for the exercise, a total mobilisation was ordered. Simultaneously the army reserves were augmented with additional forces and re-positioned closer to their projected areas of operation. By the early 1980s, the senior officers of the Pakistan Army had a good grasp of the tenets of the operational level of war, and the effects that could be generated both by the positioning as well as the timing of the move of the strategic reserves.⁶ Since the Army did not want to goad the Indians into a war, but only coerce them into a withdrawal, it was in no hurry to shift its reserves forward. Timing of moves was critical and the commander of 6th Armoured Division was personally ordered by the Vice Chief, General K.M. Arif to 'trickle across' the River Chenab from its training area near Gujrat/Lalamusa.⁷ The commander of the Indian Western Army, Lieutenant General Prem Nath Hoon confirms this process of gradual induction and recollects that: 'Pakistan did not conduct their regrouping in any rush. They took a fortnight to redeploy their reserves to their battle areas to face us after they assessed our movements'.⁸

As tension escalated, the army reserves adopted an offensive posture both in the area of Sialkot – Shakargarh, as well as across Sutlej by moving into the area of Bahawalnagar. Ironically, the setting of BRASSTACKS envisaged a Pakistani attack to capitalise on civil unrest in Kashmir and Punjab, followed in turn by an Indian counter-offensive into Sindh to capture Hyderabad, and a diversionary amphibious landing on the coast, west of Karachi.⁹ However as the threat of a Pakistani attack emerged as a strong possibility, the Indian Army was caught in a state of unbalance by a superior strategic orientation of the reserves of the Pakistan Army.¹⁰ This movement was not unanticipated by the Indian Army, however surprisingly, the actual repositioning of the reserves in the south was undetected.¹¹ To redress this imbalance, Sunderji summoned Lieutenant General Prem Nath Hoon who recollected that:

[Sunderji] pleaded with me that I stop moving forward [westwards] and instead concentrate the troops at Bikaner and Jodhpur. He also asked me to re-orient the exercise setting by moving of all troops

from South to North and he desired to know how long this would take and that I must act immediately.¹²

While the Indian Air Force scrambled to redress their vulnerabilities, and ground forces began a long and difficult re-deployment northwards, at the political level both sides sought to defuse the situation.¹³ In a major diplomatic initiative the president, General Zia ul Haq, had himself invited to a cricket match in India and on the way, he met the Indian Prime Minister at Delhi. Because of this initiative, which was recognised as Cricket Diplomacy, the Foreign Secretaries of the two countries held talks and the crisis was diffused.

While fortunately BRASSTACKS did not escalate into a conflict, it was a trying time for the Pakistan Armoured Corps both in terms of equipment as well as manpower. The Corps had been milked of troops for the three armoured regiments of the Khalid Bin Waleed Brigade in Saudi Arabia. To add to the pressure, at this particular juncture, they were being replaced by a second contingent. This placed a great stress on the armoured regiments who were concurrently mobilising for a possible conflict. The Armoured Corps was also at a serious disadvantage in equipment. Though it had received 345 M48A5s from the US, neither these nor the T-59s upgraded with 105mm guns could really match the T-72s that constituted a large percentage of Indian tanks deployed in Rajasthan during BRASSTACKS. A hundred and fifty M47Ms were still in service and while their fire control system, engine and transmission was comparable to the M60A1, they still carried the 90mm gun that was fielded during the Second World War. This confrontation with India compelled the Pakistan Army to address some serious shortfalls in armour related to balancing its defence. To strengthen the Ravi-Chenab corridor, an armoured brigade group was raised in 1987 at Gujranwala. Some immediate adjustments also took place in central and southern Punjab for reinforcing the Bahawalpur Sector, for which a mechanized brigade was also raised. Within two years of BRASSTACKS, three more armoured regiments had been added. In 1987, 40th Horse was raised by Zulfiqar Ahmed Iqbal under 3rd Independent Armoured Brigade, and 41st Horse by Zia ul Ghaffar under 6th Armoured Division. A year later, 42nd Lancers was raised by Ahsan Saleem Hyat under 10th Independent Armoured Brigade. A fourth regiment, 21st Horse was added in 1990. It was raised under the umbrella of 6th Armoured Division by Malik Zia.

The second major expansion of the Pakistan Armoured Corps was now well underway, but there was still a weakness in armour at the junction of the provinces of Sind and Punjab. A gap of over 600 km existed between the armoured brigade in southern Sind and the armour in Cholistan.

However, the First Gulf War provided the catalyst to overcome this deficiency. In late 1990 Pakistan decided to deploy forces to defend Saudi Arabia during the crisis in the Middle East. The Pakistani armoured brigade at Tabuk had been repatriated in 1988 and the army mustered together a fresh brigade-sized force and dispatched it to Saudi Arabia in January 1991. When the brigade returned after the war, it was re-designated as the 12th Independent Armoured Brigade and until the completion of a new cantonment at Pano Aqil it was temporarily based in Malir. The tank regiments continued to carry the same identity with which they had been initially raised i.e. 7th Lancers, 8th Cavalry, and 9th Horse. After Independence, there appears to have been a tacit understating between Pakistan and India not to fill the missing numbers in the line-up of cavalry regiments. However, in 1983, the Indian Army started allocating the missing pre-Independence numbers to their armoured regiments, and since there were also large gaps in the numbering of regiments in Pakistan, it followed suit in 1991.¹⁴

7th Lancers was the first to be allocated a pre-Independence number, and its badge seems to have been inspired by 7th Haryana Lancers, an ancestor of 18th KEO Cavalry. The badges of the other two also bear a resemblance to those of 8th Cavalry, and 9th Hodson's Horse prior to the amalgamation of the British Indian Cavalry in 1922. The regiments were issued M48A5s and within a short time, their combat effectiveness was comparable to any of the other regiments because they had been raised with manpower selected for the Gulf War, and trained extensively while in Saudi Arabia. Two further regiments were added in 1993. Sabur Ahmed Khan raised 16th Horse at Bahawalpur, and 14th Lancers at Bahawalnagar by Aqeel Ahmed. The nucleus for the raising of 14th Lancers was 5th Independent Armoured Squadron, one of the last of the surviving independent squadrons from the 1971 War. Raised just before the war at Kharian, it had taken part in operations in the Narowal Sector, and earned the title of Ghazi Squadron. For the next ten years, it was the training squadron with the Armoured Corps School, and in 1991 it moved back down to Central Punjab where it was placed under command of 14th Division at Okara. The last regiment to be added after 1995 was 18th Horse, which was raised for 9th Division at Kohat by Saeed Iqbal. The nucleus for its raising was 16th Independent Armoured Squadron, which has been raised to support 14th Division. In 1991, this squadron relieved 21st Independent Armoured Squadron at Kohat, and was ultimately merged with 18th Horse.

Policy Decisions post-1971

By the early 1970s, the Armoured Corps had developed into a sizable force of over 1,200 tanks grouped in 25 armoured regiments. Not only had there been a fourfold increase within 14 years, the regiments had spread southwards all the way to Malir. Due to the pressure of two wars within six years, it had been difficult to formulate or conform to policies on how fresh raisings were carried out, the rotation of regiments between stations and formations, and standardisation of equipment. However, as the environment stabilised during the 1970s, these policies were developed — though not all at the same time — and matured during the 1980s.

The manner in which manpower was transferred to the regiments on their raisings had varied considerably since the Corps had started expanding in 1955–56. There were relatively fewer regiments from

whom the manpower could be selected and the Centre did not have the time or resources to ensure that a fair cross section was posted. As a result, some of the regiments received excellent manpower, while others got the dregs. However, as the pace of expansion slowed after the 1971 War and the number of regiments increased, the quality of manpower being posted to new regiments improved considerably. This improvement was also the result of the delinking of the Centre from the School, which allowed it to focus on such issues. After approval from the Armoured Corps Directorate, a more stringent criterion was established by the Centre for selection of manpower, which factored in issues such as discipline, annual confidential reports, and courses attended. The regiments from whom the manpower was being drawn were required to prepare three balanced lists which were first scrutinised by the Centre and subsequently forwarded to the regiment being raised. Another decision that provided the new regiments with a strong foundation was to raise them within armoured formations. Compared to the infantry divisions, in which some of the armoured regiments were raised earlier, the armoured formations had a high tempo of activities, and a newly raised regiment had to exert to get into the mainstream. The proximity of good training areas and allocation of adequate fuel and track mileage also made a substantial difference. In the years to come, most armoured regiments raised within an armoured formation performed as well if not better than the older regiments.

Before the 1980s, the transfer of armoured regiments between stations was dictated only by operational necessities with little consideration to the period a regiment had remained in one station or within the same formation. Regiments in 1st Armoured Division, like 6th Lancers, 19th Lancers and 30th Cavalry, and in 6th Armoured Division like the Guides, 11th Cavalry, 24th Cavalry and 52nd Cavalry served with the divisions for 10 to 15 years.¹⁵ Regiments benefited greatly when serving within the environments of an armoured division across the entire spectrum of activities, including individual and collective training, study periods, competitions, administration, and social interaction. Those that arrived from elsewhere like 4th Cavalry, which moved from Mansar Camp in 1964 and joined 1st Armoured Division at Kharian, found the tempo much more intensive than it had been in 100th Armoured Brigade.¹⁶ The Corps came to the conclusion that armoured regiments that remained outside the ORBAT of armoured formations lagged behind, particularly in training. A lot depended on the capabilities of the commanding officer, which varied. Allowing some regiments to remain in armoured formations for a prolonged period and others not, was unfair. 26th Cavalry arrived in an armoured division for the first time 24 years after it was raised. It had served its first seven years with 23rd Division and then had two tenures with independent armoured brigades and a second tenure with an infantry division. There were advantages of remaining at one station/formation for an extended period, the most obvious being that regiments became well acquainted with the operational area and tasks. There also developed a bonding between the regiments in the formation. 19th Lancers and 7th Frontier Force remained together in Multan for 13 years, and established a kinship that continues. However, if the station was a large city like Lahore with too many distractions and garrison duties, it was difficult for regiments to remain focussed on their core activities. Two regiments, 15th Lancers and 23rd Cavalry were based in Lahore for 15 years until they were moved south.¹⁷ 4th Cavalry remained in Lahore for 17 long years as part of both 11th Division, and 3rd Independent Armoured Brigade Group until it finally moved to 18th Division at Hyderabad.

Cost was a major constraint in rotating regiments and for this reason when they did move, it was without equipment.¹⁸ As the

economy improved in the 1980s, the army implemented a five-year plan for rotating regiments between the armoured and infantry formations. A substantial number of regiments were by now serving south of the River Sutlej and the majority of the manpower belonged to the region of northern Punjab and KPK. Being far from their home districts for too long was demoralising and the plan also rotated regiments between the northern and southern half of the country. The moves were conducted without transferring the equipment and since most of the armoured regiments during this period were equipped with T-59s or its variants, conversion to a different type of equipment was not an issue. However, some aspects of this rotation had to be fine-tuned, for example, because of a different organization and scale of equipment, the *recce* regiments rotated within themselves.

A New-Look Armoured Corps

It was not to keep pace with the Indians that the Pakistan Army raised new armoured regiments though obviously the ratio of armoured forces figured in the calculus. Around 1972–1973, there was a near parity with both armies having around 28 armoured regiments, though the Indians had a marked edge in the quality of tanks. The next ten lean years of the Pakistan Armoured Corps had a serious impact on the ratio of armoured regiments. In 1975–1976, the Indian Armoured Corps launched a major expansion program and the pace was so intense that on an average, they were adding two to three armoured regiments every year and peaked in 1984 by adding five. While the raisings in the Pakistan Armoured Corps remained stagnant, the Indians increased their strength by 26 armoured regiments and by 1985, achieved a comparative advantage of slightly more than 2:1. This may have been one of the major reasons behind the Indian army chief, General Sunderji, launching BRASSTACKS. Fortunately for the Pakistan Army and the Armoured Corps, the events that unfolded during the 1980s were the *raison d'être* for increasing the number of armoured regiments and bringing them back up to full strength. This second major expansion program since the 1950–60s, enabled an increase of ten armoured regiments and by 1990–91, the Pakistan Armoured Corps had reduced the differential to a more favourable ratio of 4:3.

There was a larger purpose of raising regiments and brigades than to only make up the shortfalls. By the 1980s, the Pakistan Army had attained a good grasp of the operational level of war and its tenets. 'The graduates of Army War Course started a movement that was equivalent of a renaissance' and Sahabzada Yaqub had provided the guiding light.¹⁹ Terminology like *Schwerpunkt*, balance, time-space dimension, centre of gravity, friction, hypotheses, and variants gained currency in the Army. The Army recognised the central role that large mechanized formations played in providing operational balance and creating strategic effects. The increase in the strength of the armoured reserves with the Corps defending the desert belt presented an opportunity to group them into operational level formations. For some time the Army had been deliberating on improving the articulation of command of these forces. Back in the 1980s when Raja Saroop was commanding the corps in Multan, he had proposed grouping an independent armoured and infantry brigade to form a light division as the reserve for the corps in Bahawalpur. This thought gained momentum and was discussed, and war-gamed both by the Army and at the National Defence College. Ultimately, in 1992, the armoured and mechanized brigades in Bahawalpur and Malir were merged into division-sized forces. They were designated as Corps Reserves and controlled through ad hoc headquarters. The first two GOCs — Saleem Khan and Khurshid Alam Khan — had to confront a number of teething problems during their tenures. They had only

a skeleton staff of five officers, and relied on the brigades for clerical and administrative support. Since the brigades continued to be independent, they corresponded directly with the corps headquarters on most routine matters. Each had its slice of combat and service support units and coordinating their activities was difficult. However by 1994, the headquarters were not only fully established in new buildings with a provisionally approved TO&E, the independent status of the brigades had diluted and their service support companies amalgamated into battalions under the headquarters of the corps reserves. It would take a few more years to articulate the command of their self-propelled artillery regiments. It would also take some years for the Army to agree to repeated requests to give the corps reserves the identity of divisions. There was good reason for this. While the primary group identity in the Pakistan Army remained with the regiments and battalions, over the years the division (and its serial number), became a strong factor in establishing a secondary group identity and fostered *esprit-de-corps*. Ultimately, the General Headquarters agreed and re-designated the corps reserves as mechanized divisions in 2008.

By any measure, the growth of the Pakistan Armoured Corps has been phenomenal. Inheriting just six regiments at Independence, within 50 years the number had mushroomed to 42. Commencing from the first new raisings in 1955, for the next 40 years on average an armoured regiment was added every year. With this increase, the articulation of command also underwent a corresponding expansion. By 1995, the Armoured Corps had evolved into a very balanced force that conformed to the Army's operational concept both in its grouping as well as in distribution. The Corps was structured in three tiers and the first tier comprised of the armoured regiments with the holding infantry divisions. In the second tier, the independent armoured brigades provided defensive balance to the infantry corps. Where there was a larger concentration of these brigades, they had been grouped under division headquarters for better articulation of command. At the third tier were the two armoured divisions that formed the nucleus of the strategic reserves, and were trained and equipped for trans and cis-frontier offensive operations. Obviously, the progressive raising of new armoured regiments provided the basic building block for achieving a three-tiered distribution, but within the Corps, the balance was achieved by the raisings of headquarters. For the first nine years after Independence, there was only one headquarters for an armoured brigade, but by 1995 there had been a tenfold increase. Concurrently, the headquarters for two armoured divisions were raised before the 1965 War. However, it took 30 more years to add two more division headquarters to control the large mechanized forces in the desert belt. The balance achieved by this force was not only through its grouping but also equipment. To a large degree, the Corps had been able to standardise on the type of equipment held by the formations and regiments in the desert sector and in Punjab. This greatly assisted in the logistics as well as spare support.

A comparison of the number of the headquarters of armoured formations and regiments over a time span of 40 years indicates that while the proportion of the armoured brigade headquarters to regiments remained constant, there was a distinct improvement in the ratio of division headquarters to the number of regiments. This grouping indicated the desire of the army to concentrate its armour assets for offensive operations at the tactical and operational level. Of the 42 armoured regiments available by 1995, only eight were under the command of the infantry divisions defending the border. The remaining 34 were grouped either under armoured formations or with the infantry divisions that formed part of the strategic reserves. Equally significant was the fact that the Armoured Corps had emerged at the cutting edge of an all arms mechanized force comprising of

tanks, armoured infantry, self-propelled artillery, mobile antitank guided missile systems, combat helicopters, tracked and wheeled combat engineers, and mobile air defence.

Re-Equipment

Following the 1971 War, the Army aggressively campaigned to draw better candidates into the officer cadre. Most of these candidates were the product of a schooling system that had become more competitive. The equipment was technically challenging and required good theoretical and practical knowledge. In addition, the Corps had expanded and to be recognised, there was a need to excel, particularly in courses. Until the early 1970s, there were officers in the Corps who were promoted to brigadiers without attending the staff course, but this category was increasingly becoming rare. The commander-type who knew little else but raw soldiering was becoming a relic of the past. The rank and service structure had stabilised and the chances of advancing one's career outside the recognised system was near impossible. One of the avenues of doing well was to obtain good grades in the schools of instruction. This ensured that an officer was subsequently selected for good staff and instructional appointments, which in turn improved his prospects for further promotion. Attending the staff course became a defining stage in the career of a major, and his performance established his future prospects until the rank of a brigadier.

However, while courses improved an officer's circulation within the Army, his credentials within the Corps were gauged against two yardsticks. The first was his tactical ability in controlling a tank force from the cupola on the wireless: responding to orders and simultaneously instructing his tank troops, the mechanized infantry, the ATGMs, and other combat support elements. In the Armoured Corps, the wireless is the medium through which a commander controls his forces and instructs them what to do and when. He also has to project his personality over the ether waves. If a squadron commander's transmissions were crisp and concise without a stammer or quiver in his voice, and instructions were clear and explicit, then his reputation grew. The second yardstick was more to do with his qualities as a tanker. Did he feel comfortable commanding a tank? Did he enjoy the exhilarating sensation and the flow of adrenaline in riding a 40-ton monster? Was he aggressive? Did he respond quickly to a situation and exploit opportunities? Did he accept and take risks? In short, did he have the cavalry spirit?

The cavalry spirit fosters qualities demanded of an essential for a mobile arm. It breeds a life force of independence, self-confidence, and the habit of assuming added responsibility. It ensures that junior cavalry commanders have greater initiative and panache and inculcates the ability to make decisions when there is no one else present to do so. It encourages the taking of risks and ensures that the seniors backed their juniors when things go wrong. The cavalry regiments of the British India Army;

prided themselves on the cavalry spirit... but it was the cavalry spirit with a touch of added zest and gaiety that came from their irregular ancestry. What the cavalry spirit meant was dash, élan, swagger, and readiness to engage the enemy at once without counting the cost.²⁰

The cavalry charge was the most dramatic of events that occurred on the battlefield and the prestige gained by participating in one was such that additional officers would attempt to join one whenever possible.²¹

When the cavalry regiments of the British India Army mechanized, they hoped that the cavalry spirit would live on in the armoured corps.²²

However in the transition from the charger to an armoured vehicle, the role of the mounted arm did not change; it was merely extended and the performance of the IAC during the Second World War in theatres stretching from Rome to Rangoon proved that the cavalry spirit remained ingrained.²³ It was not only the crews of the Shermans and Stuarts in Burma or the Daimler armoured cars in North Africa; even the humble rifle troops of the reconnaissance regiments were eager and willing to close up with the enemy. In September 1944, Lieutenant Hazur Ahmed Khan was commanding a rifle troop in Skinner's Horse, which was the reconnaissance regiment with 10th Infantry Division in Italy. The division was closing up to assault the Gothic Line, and twice within a period of 10 days, the officer led patrols deep into the enemy lines and besides inflicting severe casualties, brought back valuable information on the enemy's positions. He was awarded a MC for his 'consistently excellent qualities of leadership and initiative in commanding his troop in action.'²⁴

The essence of this spirit was passed on to the Pakistan Armoured Corps at Independence and was evident two decades later in numerous actions fought by regiments, and squadrons during the 1965 and 1971 War. In the era of the cavalry, the measure of a regiment was whether it would 'Go'. Cavalry regiments that lacked 'Go', were relegated to protecting the Lines of Communication and escorting convoys. 'Go' implied that it had the dash and élan to complete an attack with a great speed and drive, as conducted by 19th Lancers.²⁵ Dash and élan is the essence of the cavalry spirit and is ingrained in the Pakistan Armoured Corps.

Cooperation with Iran

A subsequent and welcome enhancement was the upgrade of the M47s by Iran, but by the 1980s, the technology gap in tanks had widened in India's favour. Pakistan's indigenous MBT 2000 program was taking time to fill the gap, and thus the Army accepted an interim solution by inducting the Chinese T-85, as well as making a sizable purchase of the latest main battle tank from Ukraine. However, it also relentlessly pursued, and ultimately succeeded in its efforts to design and manufacture its own main battle tank that materialized as the Al-Khalid.

For many years after the 1971 War, military assistance from the US was limited, but with the help of the Shah of Iran, the Americans allowed the M47s on the inventory of the Pakistan Army to be upgraded. In the late 1960s, Bowen-McLaughlin-York, Inc. had established a facility to upgrade the M47s of the Iranian Army to the M47M version. Bowen-McLaughlin-York, Inc. was a division of Harsco Corporation, which ultimately merged with FMC to form United Defence. In the early 1970s, under a plan named Operation PHOENIX, the M47s of the Pakistan Army were shipped in batches to Iran, and upgraded with the fire control system of the M60A1, the Continental AVDS-1790-2A supercharged diesel engine and an improved CD-860-2A transmission. The M47 had an ungainly profile, which did not improve after the upgrade. While witnessing a demonstration of the M47M in 11th Cavalry in 1986, the Chief of the Italian Army remarked, 'Strange tank. Looks like an M60 from the rear and nothing on earth from the front.' Like the M60, the exhaust vented through rear louvers, which replaced the fender-mounted mufflers. This modification reduced the larger signature of the diesel smoke that was suppressed when mixed with the dust thrown up by the tank. The crew was reduced to four and the co-driver; was replaced by a rack for 22 more rounds of main gun ammunition.²⁶ Some of the other improvements included thicker hull sides, larger capacity fuel tanks, more efficient drivers' controls, an improved fire extinguisher system and the small track tension idler wheel was eliminated. The Iranian Army had purchased wireless

sets from Israel, and these were installed in the M47Ms upgraded for Pakistan. One of the major problems experienced by Pakistani tank crews was the steel tracks fitted to the M47Ms. These were better suited to the rocky terrain of the Central Iranian Plateau and created serious problems in the fields of Punjab where the ground was much softer. A tight turn put excessive strain on the half-shafts connecting the sprocket to the transmission and the final drive, and broke.²⁷

A critical deficiency that persisted since the 1950s was that the armoured regiments were without a purpose-built armoured recovery vehicle except for a few out-dated Sherman M74s. After 1971, the Chinese supplied a T-59 without a turret designated as a 'Tank Rescue Tractor T-59'. It did not even have a winch, which was subsequently installed by the tank factory at Taxila. The winch had a 40-meter cable and a maximum direct traction of 14.4 tons that with pulleys could be increased to 35–40 tons. The tractor was an interim solution, and it was many years later that the Heavy Industries Taxila started manufacturing the Chinese W 653 series of armoured recovery vehicles. The upgrade of the W 653 ARV had a 130-meter cable installed on a hydraulic winch with a direct pull of 35 tons. Its crane had a rated load of ten tons and the ARV was also equipped with a dozer/anchor blade. Fortunately, at about the same time that the United States allowed the upgrade of M47s in Iran, it also permitted Pakistan to purchase non-lethal military vehicles including 52 M88A1 Armoured Recovery Vehicles.

In comparison to the Tank Rescue Tractor, the 50-ton M88A1 Hercules standing three meters tall was a heavy weight. It had the same chassis and automotive component as the M48 and M60 tanks, but it was four feet longer than the M60. The original M88 was introduced in 1961 and the A1 version supplied to Pakistan was developed in 1977. The much-improved version of the armoured recovery vehicle designated as the M88A2 is still in service with the US forces. The M88 was divided into three compartments: hydraulics, engine and crew. The hydraulic compartment contained the main winch, capable of a constant pull of a 70-ton load, which could be doubled with a pulley giving it a 2:1 mechanical advantage.²⁸ The Pakistani tank crews found that recovering a T-59 with this heavyweight was too easy, but more difficult was to ensure that the 50-ton M88 itself did not bog down. During an exercise outside Sheikhpura near Lahore, while crossing rice paddy fields eight T-59s of an armoured regiment sank down to the hull and it took only half a day to recover them with a single M88. However to get the ARV with its 35 meter cable within recovering distance of the tanks, its ground pressure had to be reduced by placing old tyres and logs under its tracks. The M88 had an A-frame boom very much like the Sherman M74 ARV that could transport 25 tons. However, in a stationary mode it could lift 35 tons when supported with a large spade fitted in front. The spade could also be used for



M48A5s on field manoeuvres in the desert.

light earth-moving tasks as well as to anchor the vehicle when using the main winch. The M88 was practically a mobile service centre. It had an Auxiliary Power Unit (APU) for electrical and hydraulic power that could drive a hydraulic wrench, slave start other vehicles, and refuel or de-fuel. It was also equipped with gas cylinders for welding and cutting work in the field. It had a wide range of tools and spares for carrying out field repair that were stored in banks of storage bins inside the large crew compartment.

A number of initiatives were taken by the Army to enhance the mobility and operational effectiveness of the armoured force. One of the major successes was developing and fielding an Armoured Vehicle Launched Bridge (AVLB). The Military Vehicle Research and Development establishment at Rawalpindi designed the folding scissor bridge and the contract for fabricating, and installing it on the chassis of the M47M. The manufacture was contracted to the Railway Workshop at Moghulpura, Lahore which had fabricated equipment for the British India Army and it performed brilliantly in this major undertaking. Manufacture involved welding the 21.4 meter aluminium alloy structure, installing thirteen hydraulic cylinders, and connecting the hydraulic motors to the main engine.²⁹ Though very useful in crossing drains and small canals, the AVLB had some disadvantages. It not only presented a very large target but at one stage in the process of unfolding, the bridge stood nearly nine meters high and was visible from a great distance. With the complete system including the hull of the M47M weighing 54 tons, the cross-country mobility was restricted. To overcome some of these problems, a shorter single-span bridge was also designed.

Another project for enhancing battlefield mobility was a mine clearing attachment for the tank. A mine roller assembly had been captured during the Battle of Chhamb in 1971, and 28th Cavalry with the assistance of the Railway Workshop at Lahore was assigned the project to modify the T-59 tanks for fitting the assembly. It was subsequently manufactured by Soofi Industries in Multan which under the directions of 1st Armoured Division also developed a

number of prototypes of a plough-type system which was given the cover name of Lancer Cultivator. The project was initiated by Colonel Agha Jawed Iqbal of Probyn's Horse, who was a technical wizard. However, the results were not satisfactory; partly due to the weak metallurgy and partly because soil conditions varied and the system did not perform well on hard packed terrain. The Roller Mine Clearing System also had its drawbacks. It was heavier than the plough and each attachment weighed 2 ½ tons. The T-55 had three; two for the front and one for the rear and it required three 3-ton trucks to transport one assembly. The T-59 with its 520 HP engines could only push two front assemblies. Further, if the soil covering the mines had hardened over time, quite often it was not the mine roller, but the tank pushing it that detonated the mine. Once fielded, they were initially issued to armoured regiments and fitted on a troop of tanks. However, the underpowered T-59 tank was not a suitable platform and it reduced the number of tanks that a regiment could effectively employ in combat. Ultimately, they were transferred to the combat engineer battalions and fitted onto the chassis of the T-59.

The Second US Military Assistance Program

Following the occupation of Afghanistan by the Soviet Union in 1979, the US released two major economic and military assistance packages for Pakistan. In the preceding years, China and to a lesser degree France, had been the only sources of military hardware and with the reopening of the US conduit, the Pakistan Army initiated a modernisation program. Except for the TOW anti-tank guided missiles, all the other major weapon systems supplied by the US were ex-stock and refurbished, including the attack helicopters, self-propelled and towed artillery guns, and the M48A5 tanks. The equipment was supplied through the Foreign Military Funding (FMF) Program over which Congress had progressively gained greater oversight and control by placing more conditions and reporting requirements. A case in point was the Pressler Amendment passed by the US Congress in 1985, only four years after the US approved the military assistance package for Pakistan. The amendment required that every year the US President certify that Pakistan does not possess nuclear weapons. This made the FMF process difficult, posing a challenge for countries such

as Pakistan to obtain top-of-the-line equipment.³⁰ To facilitate this program, the US established the Office of the Defense Representative in Pakistan (ODRP), which was somewhat similar to the office of the MAAG that had been set up in the US Embassy in the 1950s. However, unlike the aggressive attitude of the office of the MAAG in the 1960s, the ODRP role was limited to assisting Pakistan in the modernisation of its armed forces by obtaining US military equipment.

The 345 M48s supplied to Pakistan were the A5 variant with the 105mm gun that elevated it to the category of a main battle tank. Fielded in the 1960s by the British, the 105mm L7 replaced the Centurion's 20-pdr gun, which the British realised was incapable of defeating the T-54.³¹ The gun was so successful that it came to be used almost universally in the West, in over 16 different tanks, and also in the subsequent upgrades of T-55s/59s. It was even installed in the early version of the M1 Abrams. Unlike the earlier guns of Soviet and American tanks, which were initially designed for other roles, the L7 was optimised for APDS, which had a muzzle velocity of 1,460 m/s and could successfully penetrate the armour of the T-54/55. Of special interest to the Pakistan Armoured Corps was a substantial quantity of M833 APFSDS-T DU (Depleted Uranium) ammunition supplied for the 105mm guns. The round had been developed for the M60 Patton tanks and subsequently also used in the original M1 Abrams. Due to its heavy mass and a higher pressure at the point of impact, the round could penetrate the turret of a T-72, it was also inherently incendiary because of the pyrophoric properties of the Depleted Uranium. A small drawback was that it could not be used for training because of the radiation hazards of the uranium penetrator. The M48A5s mostly equipped the brigades and regiments deployed in the desert belt in Sind, and 4th Cavalry and 27th Cavalry were the first regiments to be issued these tanks. Having entered service in the early 1980s, the M48A5s continued to equip the regiments of the Corps for the next 20 years. The M47Ms also served alongside into the 1990s and though upgraded, the basic tank was the same that had been with the army since the 1960s and fought through two wars. In 1986, when 11th Cavalry received the M47Ms from 31st Cavalry at Lahore, a JCO pointed at a tank and declared that this was the very tank in which he had fought in the 1965 conflict. No one believed him until he showed



General Zia ul-Haq with Major Tariq Khan on the fateful day of the demonstration of the M1 tank.

a scoop on the turret where a projectile had struck. He also stated that the wireless set would not operate unless the turret was turned to a particular side. This also turned out to be true.

In 1987, Pakistan expressed an interest in inducting 400 M1 Abrams armed with the 120mm gun. That same year the United States signed an MOU with Egypt for coproduction of M1A1s. Within six months, two M1s arrived in Pakistan and 1st Armoured Division conducted the hot weather trials in the desert at Khairpur-Tamewali north of Bahawalpur. They were armed with the 105mm calibre gun which the US Army was in the process of replacing with the 120mm calibre. 24th Cavalry commanded by Javed Alam Khan was responsible for

the trials and Tariq Khan was attached from 12th Cavalry. The tank was recommended for induction subject to 18 improvements, the more serious ones related to the turbine engine. On the conclusion of the trials, General Zia ul Haq and his entourage flew to Bahawalpur on 17 August 1988, to witness a demonstration of the tank. This visit by the President of Pakistan along with the US Ambassador and a large military retinue was a confirmation of the fact that the Army had decided to induct the M1 Abrams. It was on the return flight from this demonstration that his C-130 crashed killing all on-board. Apart from the President, the other senior officers of the Pakistan Armoured Corps who perished were the Chief of General Staff, Lieutenant General Mian Muhammad Afzaal and Major General Muhammad Hussain Awan. Following the death of General Zia ul Haq, the next Chief of Army Staff, Mirza Aslam Baig decided not to pursue the M1 program. Neither was his staff at the General Headquarters in favour of inducting the tank, nor was it likely that in an environment that had so rapidly changed, the US Government would have agreed to supply it to Pakistan.

Fielding a main battle tank like the M1 would have been a significant force multiplier for the Pakistan Army, but in hindsight, it was probably fortunate that it was not inducted into the Armoured Corps. Aside from the roller coaster relations between the US and Pakistan, which would have at some stage seriously affected the spare and backup support for this equipment, the tank had some major drawbacks for a country like Pakistan. Though its ground pressure was an acceptable 13.8 psi, its weight of 63 tons would have seriously strained the ability of the Army and railways to transport the tank. The average fuel consumption of the gas turbine engine during the 1991 Gulf War was 16 litres per kilometre; six times more than a diesel engine of similar horsepower.³² The turbine engine was selected by the US Army because it had a longer period of service between major overhauls, but the Pakistan Army would have taken



T-69IIM of the Pakistan Army fitted with a mine plough.



A combat team of T-85s and M113 APCs advancing through the desert.

years to develop a capability to overhaul the engines and at substantial cost. Apart from the engine, the maintenance and repair of the sophisticated electronics would have required a major upgrade of the existing capabilities. A military analyst considered the cancellation of M1 program a 'prescient decision for many reasons, but the outcome was closer cooperation with China and the development of the MBT-2000'.³³



Al-Khalid MBT under manufacture at HIT.



T-80UD with Ukrainian technicians undergoing trials at Khairpur-Tamewali.

The Tank Induction Program – Purchase and Manufacture

Shortly after the 1965 War, the Pakistan Army deliberated on manufacturing a tank. Field Marshal Ayub was of the opinion that a big tank carrying a large gun was not suitable for Pakistan and the size of a tank did not ensure its survivability against the modern and cheap antitank weapons “Why not,” he asked, “have a tank that carries these weapons, [i.e.] recoilless guns or guided missiles and you can then have a much smaller tank that sits well on the ground, has a powerful engine for speed and wide tracks for cross-country mobility?”³⁴ He opined that such a tank would not only be a real fighter and play havoc with the enemy but also the need for heavy bridging equipment would be considerably reduced. In 1967, a German military scientist named Volkow called on the Field Marshal who was intrigued to know that the scientist had developed such a vehicle and displayed it to the German General Staff.³⁵ The Field Marshal told the German scientist that he was very interested in manufacturing this tank if the army was satisfied with its performance and sent Major General Mohammadi,

Director EME, to Germany to inspect the vehicle and submit a report.³⁶ Political events probably overtook this initiative and it would take two decades before Pakistan ultimately developed the capability to manufacture a tank.

With the induction of an increasing number of T-59s, it was obvious to the Army that its facilities for the repair and overhaul of tanks were inadequate. In July 1968, Pakistan negotiated a credit offered by the Republic of Czechoslovakia for establishing 504 Central Workshop at Multan for the overhaul of T-59s, but the project was not cleared by the Soviet Union. Soon after General Yahya became president, he instructed the Secretary of Defence, Syed Ghiasuddin Ahmed to request the Chinese to establish a tank manufacturing plant in Pakistan. The request was channelled through the Chinese ambassador to his government, which despatched a team from the People’s Liberation Army for discussions. The team recommended a progressive approach and as a first step, they were prepared to establish a facility to rebuild the T-59. In May 1971, experts from China along with their Pakistani counterparts, surveyed a site at Sher Shah near Multan as well as sites around Rawalpindi and finally selected the idyllic location of Taxila with its 3,000

years of history.³⁷ In July 1971, on behalf of the Government of Pakistan Brigadier Shabbir Hussain Shah signed a protocol with an official of the Chinese Embassy for a tank re-build complex.

The project was designated as P-711. ‘P’ stood for Pakistan; ‘71’ for year of initiation and ‘1’ for the first project signed that year. The project office was established at Chaklala under the Defence Production Division of the Ministry of Defence. Construction of accommodation for the employees at Taxila started in March 1973 followed two years later with the construction of the rebuild complex. It consisted of factories and shops to repair and rebuild the engine and hull, manufacture components, engineering support, and the assembly of the tank. Initially all the components for the rebuild were to be supplied by the Chinese, but at a very early stage, the project office initiated a deletion program with the support of the domestic engineering industry as well as the shops and factories that were being established within the complex. The deletion program was a great success and ultimately of the 11,000 components used in the

rebuild of the T-59, some 8,000 were manufactured in country. In 1979, the complex was designated as the Heavy Rebuild Factory (HRF) and inaugurated by the President, General Zia ul Haq, with the first rebuilt T-59 rolling out at the inauguration. The next year the factory went into series production with a yearly capacity to rebuild 100 T-59s and 250 engines. It had taken over ten years from conception to completion, and it could not have come sooner. The first T-59s to arrive in Pakistan were now 14 years old and badly required overhaul.

With the HRF in full gear, for the first time since Independence the Armoured Corps had a fleet of tanks that was supported by a capability for an in-country repair and rebuild. Compared to the tardy overhauling of tanks by the Indian Heavy Vehicle Factory (HVF) at Avadi, the quality of the rebuild by Taxila was greatly appreciated by the Corps.³⁸ In addition, not only was there a steady supply of running spares, complete assemblies like engines and transmissions rebuilt at HRF Taxila were readily available for replacement. In fact, in an emergency, HRF was willing to exchange unserviceable or damaged parts and assemblies with reconditioned ones directly with the regiments, thus circumventing the time consuming and often frustrating chain through the ordnance depots. When the Pakistan Army mobilised in 1986 during the BRASSTACKS crisis, of the entire fleet of T-59s, and its variants, only 10 were unserviceable. However, in spite of the fact that the technical state of the T-59s had vastly improved, the Army and the Armoured Corps were very concerned with the increasing disparity with India in the quality and type of tanks.

During the early 1970s, the Indians began inducting the Soviet T-72 with a 125mm gun that was at least a generation ahead of the T-59. The Chinese were facing a similar problem in their confrontation with the Soviets, on the Ussuri River in Manchuria, and their factories were working on developing a new generation tank. However, at this stage the best they could offer was the T-59 upgraded with the 105mm gun which they had developed from the British L7 model. Though it still did not match the T-72, it was acceptable to the Armoured Corps because not only there was a commonality of ammunition with the M48A5s already in service, the 105mm APFSDS DU supplied by the Americans could penetrate the amour of the T-72. The turret of the export version of the T-72 had 450mm of rolled homogenous armour equivalent (RHA) protection which the DU could penetrate at 2,000 meters. The upgrade designated as the T-59M, incorporating 28 improvements/modifications, was undertaken at the HRF which also established



Al-Zar tanks during a field exercise.



M47Ms at Pishin Ranges near Quetta.

a factory for manufacturing the 105mm gun barrel.³⁹ Concurrently the Pakistan Ordnance Factory at Wah started manufacturing the 105mm APFSDS ammunition. The success of the T-59M resulted in subsequently fielding an improved version designated as the T-59MII which incorporated 22 more improvements/modifications, including a 580 horsepower engine, bi-axis stabilisation, an integrated computerised fire control system, hydraulic assisted steering and clutch, and a global positioning system. The next stage was the T-69IIMP which was a new manufacture based on CKD kits. It retained the 105mm gun, but along with major improvements, the hull, turret and gun were manufactured in Pakistan. This was the first major step towards developing a manufacturing capability for a new main battle tank.

Parallel to the upgrade of the T-59s, the Pakistan Army made a serious effort to purchase tanks that could match the Indian T-72. With the collapse of the Soviet Union, the avenue for acquiring major equipment from the former Soviet Bloc countries was now open. Extensive trials were carried out first on the M-84 from Yugoslavia and subsequently on the PT-91 from Poland. Both of these tanks were based on the T-72 model with improved systems and the Polish tank came very close to being purchased. However, with the untimely death of the Army Chief, General Asif Nawaz in January 1993, and a new army high command, the Polish tank deal did not materialise. Once again, the Army turned to the Chinese. After the confrontation



M48A5s and the crews of 25th Cavalry on ceremonial parade.



T-80UDs of 1st Armoured Division conducting an assault whilst on exercise.

with the Soviets in 1969, it had taken them 20 years to develop a tank with a 125mm gun. In China, different factories, either in competition or jointly, developed military systems and hardware, and the North Industries Group Corporation known as NORINCO, developed the T-85. The early model had a new chassis incorporating a wheel/track system with six small road wheels, three track rollers and rubber padded tracks and a 105mm gun with a capability to fire on the move. However, the T-85II version was armed with a 125mm smoothbore gun, fed by an automatic loader, that was based on the Soviet 2A46 design installed in the T-72. It also had an upgraded fire-control system, which incorporated a laser rangefinder, an on-board computer and a wind sensor. Pakistan signed a contract in 1990 to purchase 200 tanks of this version and another contract in 1994 in which 75 T85IIAPs would be built in Pakistan. Only 25 were actually manufactured in Taxila while 50 were delivered as kits for assembly. As they were

the first tanks on its inventory with a 125mm gun, they were welcomed by the Armoured Corps and were sufficient to equip two mechanized brigades. There were technical problems as the tank had been rushed into service and not been through its full development cycle. Apart from a number of smaller issues, the turbocharger overheated and caught fire; the fire control system malfunctioned, and so did the autoloader and the laser range finder. A team from NORINCO finally rectified the faults though it took a few years.

It was not only the Chinese who enhanced the capabilities of the HRF during the 1980s. The US Military Assistance Program funded two factories, the first of which was established in 1989 by General Dynamics to overhaul the American series of tracked vehicles including the M47/48, M109/110 self-propelled howitzers, M113 APCs, and the M88A1 armoured recovery vehicle. The second was setup in 1992 by United Defence, under an agreement for transferring technology to manufacture the M113P. The 'P' stood for Pakistan. As it developed into a multi-factory complex, there was a need to restructure HRF and Lieutenant General Tanveer Hussain Naqvi who was the first of a subsequent and continuing chain of Armoured Corps officers to head this organization carried this out in 1994. Since then, except for one, all chairmen of the Heavy Industries Taxila have been from the Armoured

Corps. Through a Presidential Ordinance, HRF was re-designated as Heavy Industries Taxila (HIT) and managed by a board with a chairman and five members on the lines of the Pakistan Ordnance Factory. The timing for establishing the HIT Board could not have been better from the perspective of undertaking three important programs that had been set in motion. These programs were part of the first-ever master plan formulated in 1990 by the Army to equip the Armoured Corps. The master plan spelt out what the tank fleet of the Armoured Corps would comprise and how it would be distributed between the desert belt and further north, as well as between the formations in defence and the reserves.

The first major program was the development of the MBT 2000, which ultimately emerged as the Al-Khalid Main Battle Tank. Across the border, the Indians had launched the Arjun tank program around the same time that Pakistan decided to establish a facility for the

rebuild of its tanks. Except for an imported power pack, everything else in the Arjun was to be developed indigenously including the hull, the turret and its armour, the running gear and the 120mm gun. Instead of rolling out a basic version and then augmenting it after field trials and introduction in service, the General Staff Requirement kept changing resulting in the behemoth that it is today. It took the Indians 24 years to get from concept to a preproduction model and another eight years before the first batch of 16 were received by the Indian Armoured Corps.⁴⁰ In contrast, Pakistan's MBT program adopted a much more time-limited, scope-restricted, and budget conscious approach. The tank would have a 125mm gun, but the options for the fire control and gun control system were kept open. So also for the engine and transmission and from that perspective the hull design was unusual in that it could be stretched to accommodate different options. In January 1990, a contract was signed with NORINCO for the development of the MBT 2000. An early prototype tested in 1991 had a Chinese fire-control system and an 1,100 horsepower German MTU engine (upgraded for tanks) coupled to a German RENK LSG-3000 automatic transmission. Another version had a more advanced Western digital fire-control system and was powered by a 1,200 horsepower Condor engine manufactured by Perkins in the UK, that was similar to the one installed in the British Challenger tank. It was coupled to a French SESM ESM500 automatic transmission fitted in the Leclerc. This version was considered too expensive and underperformed in the extreme heat of southern Pakistan. Over the next ten years, the development cycle went through five prototypes, and Pakistan spent around US\$20 million on the co-development of a model suitable for its needs and on creating a capability to manufacture it locally. A major portion of this work was carried out during the tenure of Hamid Javaid as Chairman of HIT and supervised by Brigadier Nasir Mehmood and Lieutenant Colonel Naweed Hussain from the Corps of Electrical and Mechanical Engineers who steered the program in its development phase. He worked for many years on this project and sacrificed his career and promotion for its sake. Brigadier Asaad took over the program as it entered the stage of pilot production.

The decision on the engine/transmission for the MBT 2000 was strongly influenced by the purchase of the T-80UD. 'U' stands for *uluchsheniye*, meaning 'improvement' and 'D' stands for diesel. Following the unsuccessful effort to induct the Polish PT-91, the Pakistan Army focused onto the Ukrainian T-80UD and trials were carried out in 1993 and 1995. A year later, Pakistan signed a contract for 320 T-80UDs in two variants: the standard Ob'yekt 478B and export Ob'yekt 478BE. In 1997, 35 standard variants were drawn from Ukrainian Army stocks and delivered for the Armoured Corps to commence conversion. To meet the remaining order, the T-80UD production line started again. Nearly 70 percent of the components of the T-80UD were manufactured outside Ukraine mainly in Russia, but Pakistan had been assured by Ukraine that the contract would be honoured in spite of pressure and lack of support from Russia. However, the Russian government had been publicly against this sale from the very beginning and refused to supply Ukraine with critical components. Ukraine had already started designing a better variant of the T-80UD designated as the T-84 with domestic components. The main improvement was its 1,200 HP 6TD2 engine. The earlier version T-80 had the 1,000 HP 6TD1 engine. These components along with other improvements were used to complete the order for Pakistan at the Malyshev plant and the remaining tanks were delivered by 2002. While the Army was carrying out their trials on the T-80UD, HIT was concurrently evaluating its 6TD1, 1,000 horsepower diesel engine. With a horizontal placement of 6 cylinders and 12 opposed

pistons, the 6TD1 was very compact and comparably lighter and its two-stroke cycles produced a high torque. From the perspective of standardisation, the Army also found the prospects of having the same engine in the MBT 2000 and T-80UD very attractive. Therefore, a prototype of the MBT 2000 was tested with the more advanced 6TD2 Ukrainian engine generating 1,200 HP that was coupled to a manual transmission and this cost-effective configuration was chosen for the early production versions of the Al-Khalid tank. It was during the tenure of Israr Ghumman as Chairman of HIT that the first regiment of the Corps was equipped with the Al-Khalid Main Battle Tank.

The second major program undertaken in cooperation with NORINCO of China was the Al-Zarrar, which was the third phase in the progressive upgrade of the basic T-59. In spite of its compact size, the T-59 had a good 'stretch potential' allowing upgrades in firepower, mobility and survivability at far less a cost than a modern main battle tank. While retaining the original hull, the suspension was reinforced and rubber tracks with top rollers were added. The turret was modified to incorporate a 125mm gun with its fire control system that consisted of an image stabiliser, laser range finder, and a ballistic computer, and was supported by a thermal imager. The weight of the tank increased to 40 tons, but because of a 730 horsepower turbo-charged engine, it had a good power-to-weight ratio of 18.3 hp/ ton. All these modifications and upgrades were as a result of a sound research and development program. Three prototypes were fielded on which extensive user and technical trials were conducted and the first batch of the Al-Zarrar was delivered to the Armoured Corps in 2004. The third major program was transforming the factory for the manufacturing of barrels into a gun manufacturing factory for the 125mm gun of the Al-Khalid and the Al-Zarrar.

Going South

As the zones of operation spread south after 1971, the Pakistan Army decided to base an armoured brigade at Malir where a large transit camp had been constructed during the Second World War. At the opening stages of the War, Karachi — along with its satellites like Korangi Creek, Mauripur, Drigh Road and Malir — became a transit point not just for troops of the British India Army embarking for the Middle East and North Africa, but also for the American personnel and stores disembarking for the China-Burma-India (CBI) Theatre.⁴¹ After the fall of Burma in 1942, to support the war against the Japanese in the CBI Theatre, the Americans had to urgently build facilities in and around Karachi. There was no alternative as British shipping overtaxed the ports at Bombay, and Calcutta was vulnerable to Japanese air attacks. Karachi and its satellites developed as the first link in a 3,200km supply chain stretching all the way to Assam and beyond, and it was one of the two Main Base Stations, the other being Calcutta. Apart from developing the port, wharves and storage facilities, additional airfields were constructed at Malir and Landhi. Concurrently, a garrison for 20,000 soldiers was constructed at Malir, which included 38 mess halls, 300 barracks and allied facilities. Malir became a training base as well as a staging centre for American troops when they arrived after a 60-day sea voyage from the United States. It was at Karachi that 'the [American] soldiers got their first look at the enchanting Far East and after training, re-outfitting and familiarisation to the Orient was accomplished at the Malir Cantonment, they departed by rail across India to Eastern Assam'.⁴² Consequently, Malir and not Kharian, has the distinction of being the first cantonment developed by the Americans in the Indian Subcontinent.

The Armoured Corps was introduced to Malir during this period as regiment's heading from North Western India to the Middle East and North Africa, transited through it. 6th Lancers, the Guides, 11th

Cavalry and 13th Lancers, all filtered through Malir, but with relatively brief stays, as their presence was urgently required in the combat theatres. 19th Lancers, which was not shipped abroad from Karachi, had a somewhat longer stay in Malir. It was the recce regiment with the 31st Indian Armoured Division, which had arrived from Sialkot in 1942 en route to the Middle East. However only the headquarters of the division left for Iraq and 19th Lancers, which was equipped and trained with Humber armoured cars at Malir, was despatched by road all the way to Madras to defend India against the possibility of a Japanese invasion.⁴³ The seniormost Armoured Corps regiment, the Governor General's Bodyguard also spent time in Malir after the Second World War as the reconnaissance squadron with the 44th Indian Airborne Division. However, in April 1946, it reverted to its former role and designation. It left for Delhi not knowing that the following year part of it would be back at Karachi to participate in the ceremony for Independence Day.

At Independence, there was substantial accommodation vacant at Malir. Initially it performed the same role it had during the Second World War, acting as a transit camp, but this time for troops transferred to Pakistan under Operation SEA CROSS. The Karachi Sub Area was re-designated as 51st Brigade and formed part of 8th Division that was raised at Karachi. It was based at Malir and had the responsibility for the reception and accommodation of the troops arriving from India. Briefly, the 2nd AGPRA was also based at Malir, but transferred to Multan in 1948. A school for anti-aircraft artillery had been established at Clifton in 1941, and it also shifted to Malir. There was also room enough for establishing the Ordnance Centre and School.

Malir did not emerge as an armour station until 1967 when 30th Cavalry arrived from Multan, and was grouped with 18th Division. The division was responsible for the sector of Khokrapar and the Rann of Kutch, and since Malir was far from the border, a squadron was stationed in Hyderabad with a troop of four tanks further east at Chor. After the 1971 War, 18th Division moved to Hyderabad making space for the 2nd Independent Armoured Brigade. In 1973, the brigade headquarters moved all the way from the Iftikharabad Sector (Chhamb was renamed as Iftikharabad) where it had fought in the 1971 War and the regiments that were the first to join it at Malir, were 38th Cavalry and 53rd Cavalry, both of which were freshly raised.⁴⁴ For the brigade and its regiments it was not a pleasant change. When 19th Lancers stayed here in 1942, it found that 'Malir.....bare, dusty and often windswept, was an unpleasant place' and it had not changed much.⁴⁵ The troops were also not pleased with their new station; it was just too far from their homes. However, it took some time for them to realise that being far from their villages and towns had an advantage. They were not expected to return home for every marriage or bereavement in the family, and could therefore save money. The officers also discovered that in some ways Malir was an attractive station. It was close to the large and exciting metropolis of Karachi, and yet at a sufficient distance not to disturb the training and other routine activities in the regiments. Malir also had a lovely old club with a swimming pool surrounded by large trees, and an open-air theatre, which screened a weekly film. It was one of the facilities constructed by the Americans during the Second World War, as were many of the buildings in the cantonment. This was a strong negative aspect of Malir during the 1970s; everything about it looked and was old, and the buildings were in a state of disrepair. A week after 26th Cavalry arrived in Malir in 1976; the ceiling fan in the office of the risaldar major fell onto his desk. Fortunately, he was out of his office. For a newcomer, the layout of the road network in the cantonment was very confusing, and it was easy to be disoriented. When 30th

Cavalry arrived in Malir in 1967, the CO lost his way while returning home from his first day in office. Expecting him back for lunch, his wife telephoned the regiment which informed her that the CO had departed two hours ago.⁴⁶

The troops were located in lines named after cities, such as Lahore Lines or Sialkot Lines, and were surrounded by large thorny acacia bushes and at times it was difficult to determine where the limits of the cantonment ended and the desert began. For field training, this proximity to the desert was an advantage. Tank crews and troops could be put through their paces a few kilometres away near a now disused airfield that had been constructed by the Americans in 1942. Only 16km to the north at Gadap, there was sufficient area for the training of regiments and their squadrons. However, the stony desert around Malir differed greatly from the terrain along the border. To experience the sandy desert with high dunes, the brigade had to be transported 300km to Chor, east of Mirpur Khas. Fortunately, a branch line of the railways, that had been constructed by the Americans in 1960s when they had financed and built an ammunition depot at Malir, led into the cantonment. For moving to the operational area, the tanks could be conveniently loaded right next to the garages, but during the 1960s, the broad-gauge railway line terminated at Mirpur Khas. A railway crane then transferred the 40-ton Shermans onto the railway flats of the meter-gauge line, which ran all the way to Khokhrapar.⁴⁷ For 18 years, Malir had only an armoured brigade, but in 1991, when troops were repatriated from Saudi Arabia after the First Gulf War, another armoured brigade arrived at Malir. This heavy concentration of armour at Malir remained until 1995 when 12th Independent Armoured Brigade moved to Pano Aqil. Gradually new construction was undertaken in Malir and the environment improved especially when many years later a division-sized force re-designated as a mechanized division was raised in Malir.

The Forward Deployment – Bahawalpur

The history of the region of Bahawalpur can be traced back 2,500 years when the River Hakra flowed through what is now the desert of Cholistan, and the area was fertile and cultivated. Just southwest of Dera Nawab is the town of Uch, which was an Indo-Scythian (Yüeh-chih) settlement, dating back to the years 120BC to 450AD. In more recent times, the region was under the control of the Sikhs until the first Nawab of Bahawalpur State declared his independence and was supported by the British. The city of Bahawalpur was established on an earlier site as the capital of the princely state bearing the same name. The name of the city was derived from Ameer Muhammad Bahawal Khan, the eldest son of Ameer Sadiq Muhammad Khan who founded Bahawalpur in 1748. During the British Raj, the State of Bahawalpur contributed forces to all the campaigns except that in China in 1900–1901, and in more recent times, the two World Wars, the Third Afghan War and operations in Waziristan. The training centre was at Dera Nawab and a small cantonment existed at Bahawalpur. At Independence, the Bahawalpur Regiment consisted of four battalions, which were integrated into the Pakistan Army to form 6th (Bahawalpur) Division. In 1956, this division was disbanded and the battalions were merged with the Baloch Regiment.

In the 1950s, Bahawalpur was considered a dreadful outlandish place. Like Multan, it was a punishment posting and the *Kala Pani* (Black water) of the Pakistan Army.⁴⁸ Tommy Masud of 11th Cavalry fame was banished to this station after he beat up the British commandant of the Punjab Regimental Centre at Jhelum. Masud escaped a court martial because he was a KCO from Sandhurst and the permission of the British monarch was required.⁴⁹ For many years, Bahawalpur remained a small military garrison with just one



The old and new: officers, mounts and tanks of 54th Cavalry.

battalion, which was part of the 105th Infantry Brigade located at Multan. Following the 1965 War, its fortune changed and to make space at Multan for the armoured division, the remaining brigade shifted to Bahawalpur. During the 1970s, the desert belt of Cholistan was the operational responsibility of the corps at Multan. However as the Indian threat in this sector increased, the garrison was upgraded to accommodate an infantry division with its integral tank regiment. The infantry division carried the same Pelican insignia as that of the Bahawalpur State Forces, though there was no lineage. The arrival of 10th Independent Armoured Brigade at Bahawalpur coincided with the raising of a corps at the end of the 1980s, which took over the assets of II Corps in this sector.⁵⁰

By the 1990s, Bahawalpur was a far cry from the *Kala Pani* of the 1950s. It had a modern military cantonment carved out from the desert and the sand carpeted with grass that the troops laboriously transported from the banks of the Bahawal Canal. It had a well laid out park with a mini zoo and also boasted of an 18-hole golf course. The fairways could be a little dusty in summer, but the greens were well watered and manicured. The 17th hole was unusual because it was home to a live Pelican that was fed its daily ration of fish and also occasionally swallowed a golf ball. While the cantonment was being constructed, the last priority was the headquarters of the

corps and divisions which were housed in the palaces of the defunct Bahawalpur State. With the property of the state under litigation between the heirs, it was only the Pakistan Army which could maintain and restore these priceless relics of a by-gone era. In 1971 the palaces were leased to the Army by the Auqaf Department and subsequently purchased and beautifully renovated. Since they housed military headquarters, they were not accessible to the public but Noor Mahal, which was at first the premises of the headquarters of the mechanized division, was converted into

the Garrison Club. It too underwent a complete renovation that restored its former glory. It was constructed in 1875 and the design encompasses features of Corinthian and Islamic styles of architecture with a tinge of the sub-continental style. Subsequently Nishat Mahal was also restored by the Army and is open to the public.

It is rare for an officer of the Corps not to find his tenure in Bahawalpur professionally rewarding. The combination of fertile tracts interlaced with canals petering out into large expanses of desert poses interesting operational challenges. So does the weather with the hot and dusty summers contrasting with the penetrating cold and mist of the early winter mornings. With the regiments of 1st Armoured Division and other formations gravitating towards the firing ranges in Cholistan in winter, there is a great deal of social and professional interaction between the armour officers. Invariably every year one of the large formations has a major exercise or a firing demonstration and there is a brief deluge of VIPs and 'red brass'. These events have a great deal of training value for both the observers as well as the participants. Following the establishment of Bahawalpur and Malir as major armoured cantonments, more were established at Gujranwala, Pano Aquil and Chunia. However, this belongs to a later period in the history of the Pakistan Armoured Corps.

CHAPTER 8

OVERSEAS DEPLOYMENTS

During and after the Second World War, regiments of the Indian Armoured Corps operated from Europe to the Far East. All of these overseas movements ceased at Independence. However, 35 years later, the officers and personnel of the Pakistan Armoured Corps once again had the opportunity to serve overseas, but the nature of operations and scale of deployment varied greatly. The first tenure in Saudi Arabia which lasted nearly eight years was professionally, financially, and spiritually most rewarding. The second tenure during the First Gulf War was a lot more demanding and though the brigade did not participate in combat operations, it met a great deal of hardship out in the hot and barren desert near Ar'ar. Equally demanding and a lot more dangerous, was the deployment in Somalia in support of the United

Nations. Thrust into the cauldron of a civil war with near unserviceable tanks provided by the UN, the Corps performed admirably well. The final deployment in Slovenia on peacekeeping operations brought out the best of Pakistani troops and through their patience and sincerity; they won respect and admiration. All told, these deployments abroad were a rich experience that provided an opportunity for the Corps to not only absorb from the armies of other nations, but also assess their own strengths and weaknesses. Furthermore, it broadened the horizons of the officers and soldiers.

The Brigade in Tabuk

Military to military relations between the Kingdom of Saudi Arabia (KSA) and Pakistan dated back to the 1960s, but centred on the navy and the air force. Many Saudi naval officers were commissioned from the Pakistan Naval Academy. In 1969 pilots of the Pakistan Air Force flew strikes in British Aerospace Lightning fighter-bombers of the Royal Saudi Air Force to repulse a South Yemeni incursion across the kingdom's southern border. In the early 1980s, President Zia ul Haq developed an intimate relationship with the Saudi monarchy and for the first time the Saudi Government requested Pakistan to station combat troops in the kingdom. Initially a few engineer and air defence battalions were despatched, and subsequently a heavy armoured brigade. During the 1980s, the Saudi Army was concentrated in four large military cities, constructed at substantial expense by the US Army Corps of Engineers. The first was at Khamis Mushayt in the southwest, about 100km from the Yemeni border. The second was at Al Kharj, near Riyadh. The third, which was in the process of being constructed, was the King Khalid Military City near Hafar al Batin close to the border area facing Kuwait and Iraq; and the fourth was at Tabuk in the northwest that safeguarded the routes leading in through Jordan. In the 1970s, the Saudis raised their first armoured brigade. Designated as 4th Armoured Brigade it was based in Tabuk and furnished with a full range of French equipment including AMX-30S main battle tanks, and AMX-10P armoured infantry fighting vehicles. The Saudi Army were chronically short of manpower with units holding only 30 to 40 percent of their authorised strength. When trouble erupted with Yemen, troops were diverted south to Khamis where the Saudi 5th Armoured Brigade, equipped with M60 tanks, was based. The Pakistani Armoured Brigade that was based at Tabuk for the next five years filled the vacuum that emerged in the northwest.

The history of the region surrounding Tabuk dates back 3,500 years, and is identified with the land of Maydan. It lay on the old trade route from Yemen through Mecca and Medina, and on to Petra, and Palmyra near Damascus. In more recent times Tabuk was one of the stations on the Hejaz Railway constructed and opened by the Turks

in 1908. By the 1980s, Tabuk had developed into a mid-sized town whose only attraction was the *suk* (marketplace) that thrived on the business brought in by the large Pakistani contingent. The military city, locally known as Coma Camp, was 20km from the city centre. Spread over 10 sq km, it had all the facilities of a modern military complex – offices, officers' quarters, barracks, mess halls, vehicle sheds, repair hangers, cold storage, etc. Coma Camp also offered a variety of sports grounds for basketball, tennis and squash as well as a gymnasium and swimming pool. It also had a large stadium-cum-jogging track. The agreement to station Pakistani troops in KSA was formalised through a Memorandum of Understanding, a six-page document that stated the very basic terms of the deputation — tenures, pay, leave, provision for families, visas, etc. The deputationists in KSA were divided into two categories, A and B. Category A which included officers and other personnel from the Pakistan Navy and Air Force as well as doctors from the Army Medical Corps, were posted in individual billets all over the kingdom. Not only were they allowed to bring their families for the duration of the deputation; the Saudi government also paid the airfare. All the officers and troops who were serving in combat units were classified as Category B; and could only bring their families on short visit visas at their own expense. This included the artillery, engineers, and air defence regiments that were formed for KSA with Pakistani troops but outside the ORBAT of the armoured brigade. On the request of the Pakistani Government, those on deputation only received 60 percent of their salary. Saudis transferred the remaining to a fund in Pakistan where it was utilised for the welfare of the soldiers of the armed forces. During the 1980s, the strength of Pakistani troops of all three branches peaked at over 18,000 and the money transferred to Pakistan was quite substantial. For all practical purposes while the deputationists served in KSA, they were part of and under command the Royal Saudi Armed Forces. They were paid by the Saudi Government, wore Saudi uniforms and were subject to Saudi law. In this regard, they were very different to members of the armed forces of other countries, particularly American and Europeans who operated in KSA through a government-to-government contract. They functioned under their

embassies and were paid by their own governments who charged the Saudis for those services.

To decide on the strength of the contingent at Tabuk, Major General S.R. Kallu brought a team to Saudi Arabia to conduct an appraisal, and hold discussions with the Saudi Army. The team recommended 5,400 officers and personnel, but subsequently an independent appraisal was carried out by Colonel Inayat Ollah Khan Niazi, who had been posted to the Directorate of the Armoured Corps in the Headquarter of the Saudi Land Forces at Riyadh, and concluded that this strength was insufficient for manning the equipment of the armoured brigade. A fresh round of discussions took place over a period of six months and included a visit by the Vice Chief of Army Staff, General



An AMX-30S of the 12th Khalid Bin Wallid Brigade during field training.

Sawar Khan to Saudi Arabia. Ultimately, both sides agreed on 7,000 including 350 officers. The brigade under the command of Mehboob Alam was airlifted into Tabuk aboard chartered aircraft in 1982. It was designated as the 12th Khalid Bin Walid Brigade, and comprised three tank battalions (numbered 11th to 13th), and a battalion each of mechanised infantry, self-propelled artillery, air defence, and engineers. It also had its slice of all the service support units. The officers selected to command the tank battalions were Sadiq Akbar, Muhammad Yusaf, and Khan Tariq Egbal. The agreed strength of the brigade included the tradesmen — cooks, mess waiters, washer men, barbers, cobblers, tailors, and gardeners. They arrived

with the tools of their trade and the gardeners also brought seeds from Pakistan. Within a year of its occupation, Coma Camp started resembling any cantonment in Pakistan with hedges, lawns, and spring flowers. For any Pakistani visiting Coma Camp, it was like coming home. Outside was Saudi Arabia, but once past the Saudi guards at the gate, inside it resembled Pakistan with the exception that everyone was dressed in Saudi uniforms. It was an oasis in the desert and the lawns were lush green with water from a recycling plant. Coma Camp became a showpiece, and the Saudi Area Commander used to send officers and NCOs to see how a military base should be maintained.

Once settled in, the brigade immersed itself into conversion to the French equipment, which was very different and more advanced. GIAT Industries manufactured the AMX series, and between 1973–79, they delivered 190 AMX-30S tanks to the Saudis, which were modified for desert fighting.¹ The tanks were complemented with a number of variants including armoured recovery vehicles, combat engineer tractors, air defence, and self-propelled guns. The design of the AMX-30S focused on firepower and mobility rather than protection, and the tank was assessed as the worst protected MBT ever built. Because of its light weight of 36 tons, it had a top road speed of 65km/h, but its manual gearbox of five forward gears and five reverse, proved to be troublesome for the driver, and the cause of a number of mechanical issues. The crews also found that in spite of the modifications, the AMX-30S lacked the power, cooling, and filtration necessary for desert combat. It was not an easy tank to operate, but the Pakistani tank and repair crews became quite adept at maintaining it, and repairing most of the running faults. This created friction with the French GIAT team stationed in Tabuk that was under a contract with the Saudi Army for carrying out even basic repair. With the arrival of the Pakistani brigade, GIAT's business suffered, because only equipment with serious faults was being back-loaded to them. To improve the tanks' operability, the Pakistani technicians carried out some minor modifications, and gave the GIAT team an excuse to complain to the Saudi headquarters that the equipment was unserviceable. To verify this, the Saudi Area Commander ordered the brigade to move at short notice 100km with all its vehicles. The move was completed without a single vehicle breaking down, and the Saudis



Brigadier-General Ghulam Ahmed, Commander 12th Khalid bin Walid Brigade during the First Gulf War of 1991. In the driver's seat is Lieutenant-Colonel Nasim, and sitting behind him is Major Tariq Khan.

admonished the GIAT team for creating a false alarm.

After the brigade converted onto the new equipment, it established a routine of training classes and promotion cadres for the soldiers and study periods, lectures and tactical discussions for the officers. With up to 30 officers in a tank battalion, it was not easy for the commanding officer to keep them usefully occupied. However, the officers and the other ranks seldom caused a problem. The pay was good, the company and environment excellent, and leave was fairly generous. They also knew that a breach of discipline would result in a quick repatriation, and disciplinary action in Pakistan. Administration within the brigade was relatively easy since there were no serious issues of discipline, and the accommodation and food were excellent. The scale of ration was the same as authorised to the Saudi soldier, and lavish — particularly in meat and dairy products — compared to what the Pakistani troops were provided back home. It also included products like corn flakes and jam, which were not part of the diet of the Pakistani soldier. However, the rations missed out on some of the basic ingredients of their diet like spices and lentils. These were purchased locally through a fund established by the units. There was also a fund to meet the cost of repair for damage to equipment. Unlike the Pakistan Army, in the Saudi Army a commander did not have the authority to write off part or whole of the cost of repair for which a soldier was held responsible. This fund, which was a form of group insurance, was based on contributions by all the ranks and while the Saudi authorities frowned on this practice, they did not object.

Healthy competition is always a good way of keeping the troops mentally alert and the ample sports facilities were put to good use. 'The level of motivation through sports was unbelievable. In Ramadan, teams practiced the whole night long in the well-lit basketball and volleyball courts. Inter-unit matches were major events where it was always the question of do or die. Losing a match meant total disaster.'² To break the monotony of the routine within the garrison, the endless desert provided training areas just outside the boundary fence, and troops and equipment was often taken out for field training. Larger field exercises were also conducted but the sensitivities of the Saudis had to be factored in when setting an exercise e.g. in the preamble, the loss of cities or critical spaces was not acceptable. Once a year,

the brigade also carried out field firing. The Saudis were very careful with the ammunition. It was drawn and transported by them to the firing ranges, meticulously counted, and issued to the regiments. They also remained present during the entire period to ensure that all the ammunition was expended.

The brigade had its own small weekend retreat at Haql, a beach town on the Gulf of Aqaba. The drive was over 200km, but the many guests who were entertained here would testify that it was worth a visit. The brigade had hired a set of four pre-fabricated, air-conditioned huts, which were located right on the sea shelf and provided somewhat basic, but comfortable accommodation. A small mess staff and an engineer detachment maintained the premises and looked after the visitors. The visitors spent the day snorkelling and discovering the most beautiful corals, and varied species of fish in the world. The evenings were spent listening to music and barbequing by the beach. Adding to this idyllic setting were the lights of the Israeli port of Eilat across the gulf, and the occasional ship gliding past to Aqaba. Nearly all the officers purchased second-hand cars while they were based at Tabuk. The more sensible bought mid-sized vehicles like the Toyota Cressida, but the larger American Buicks and Chevrolets were a pleasure to drive, especially long-distance, and a great deal safer. Driving distances in Saudi Arabia were large: 700km to Madina and another 400km to Mecca; a round trip of more than 2,200km. The more adventurous even drove another 900km to Riyadh and back. Frequent *Umras* (a pilgrimage to Mecca) and the opportunity to perform Hajj was one of the highlights of the tenure in Saudi Arabia, but a number of officers also travelled to Europe and America.

At the end of the brigade's tenure of two years, the two governments agreed to replace the first contingent with a second for a similar period. Jehangir Keramat with Khawaja Muhammad Nasir as his deputy commanded the second contingent. The three commanders of the tank battalions were Rehmat Khan, Omer, and Safdar. The routine carried on very much the same. Relations with the Saudis were excellent, and any issues that could not be resolved at Tabuk were addressed by Mian Muhammad Afzaal who was based at the Saudi Ministry of Defense at Riyadh. Major General Mian Afzaal had the designation of Senior Pakistan Armed Forces Officer (SPAFO), and acted as a liaison between the Saudi MOD, and the Joint Staff Headquarters in Pakistan. His predecessor was Major General S.R. Kallu who did not like the environment and returned back after a very short stay. The SPAFO was assisted by a brigadier who carried out a similar function in the headquarters of the Royal Saudi Land Forces.

Major General Afzaal regularly visited the brigade, and the presence of a senior officer from the Armoured Corps was always welcome. When the two-year tenure of the second contingent in Tabuk was ending, the Saudis requested for the stay to be extended by another year. Finally, after five years, 12th Khalid Bin Walid Brigade folded up and the Pakistani troops returned home just a short time before Iraq invaded Kuwait. In retrospect, instead of repatriating the entire brigade it would have been prudent to scale the manpower down by 70 to 80 percent, leaving behind an adequate strength for maintaining the equipment and the accommodation.

The First Gulf War

On 2 August 1990, Iraq invaded Kuwait and set in gear events which ultimately led to the First Gulf War. The Kingdom of Saudi Arabia was under threat and like many other Muslim nations, Pakistan also offered to send troops to defend the country – although in the country there was no great deal of public support for the US-led coalition that was building-up to attack Iraq. An infantry brigade was initially dispatched, but since it was not mechanised, its presence was irrelevant in the operational environment of the desert. Consequently, it sat out the war in the same military complex at Tabuk, which for five years had been home to the armoured brigade from Pakistan. Since the invasion of Kuwait in August, there was speculation in the Pakistan Army that an armoured force was also being dispatched to KSA, but it was only at the end of December 1990, nearly five months after the invasion, that a decision was finally taken orders were issued. The Pakistan Army decided to send an armoured brigade of the same strength and composition as the one based earlier at Tabuk. It was also decided to raise fresh armoured regiments for the brigade which was hastily assembled at Nowshera. The regiments were authorised their full scale of officers and manpower, and had only ten days to organize themselves into squadrons and tank troops and prepare to embark. Not only was the despatch of the brigade to Saudi Arabia politically inept, it was an operational and administrative disaster.³ The authorities incorrectly assumed that the Saudis would provide everything as in the previous deployment at Tabuk. Obviously they would provide all the weapons, arms and ammunition, but to expect them to do more during this crisis was assuming too much. This error of judgement would cause a great deal of discomfort to the force.

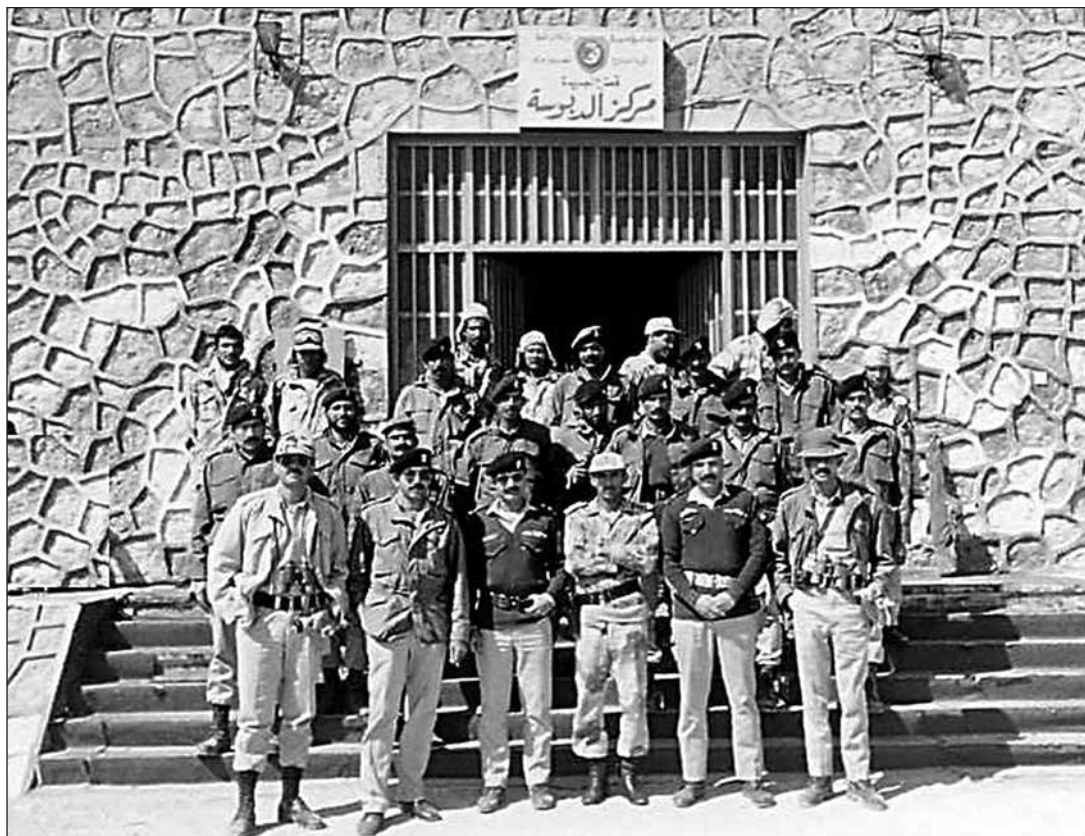
On 10 January 1991, the advance party of the first regiment, 7th Lancers commanded by Sheikh Muhammad Nasim, boarded for KSA accompanied by the brigade commander, Ghulam Ahmed and some



AMX-30Ss of the 12th Khalid Bin Wallid Brigade at Ar'ar.

of the brigade staff. Nasim who was well familiar with Tabuk (he had visited it during the tenure of the previous brigade), recollected their arrival and the unpleasant surprise they faced:

It was terribly cold and dreary at Tabuk airport. The Saudi military staff and some members of the Pakistani administrative group received us. With the hope that we would soon arrive in Khalid Bin Walid Brigade at the Tabuk garrison, we started. The sight of lights of the fast approaching cantonment was very heartening. Then those welcoming lights were left behind, and we swerved to the right towards total wilderness and a dark night. The seemingly never-ending journey came to an abrupt end, and we found ourselves in the middle of nowhere.⁴



Members of the Pakistani contingent with their Saudi colleagues at the Border Post at ad-Dabusa, after its recapture from the Iraqi Army.

The officers and troops along with their baggage were dumped unceremoniously in the desert in the middle of the night with no shelter, no lights, no food and water, and practically no winter clothing. Fortunately, help came from the infantry brigade and in the days to come, officers were accommodated in the cantonment while the men went under canvas. Within a few days, the remaining troops of 7th Lancers arrived, followed by 8th Cavalry commanded by Abdul Salam, and 9th Horse commanded by Junaid Anis.

Having established a functional administration, the brigade quickly focused on organising itself for operations. The equipment that it drew was the same that had equipped the previous Khalid Bin Waleed Brigade, and it seems due to a shortage of manpower, the Saudis had left it 'as is, where is' with grass growing through the tank tracks. Due to the urgency, making the equipment combat ready and training the troops on the French AMX series was carried out concurrently, and within a record time of two weeks the brigade was ready to move to its operational area. The brigade was ostensibly under the operational control of the Saudi Northern Area Commander, but the decision on its employment rested with the Government of Pakistan and more specifically the Pakistan Army. Ultimately, the army gave clearance for its deployment on the Saudi-Iraq Border in a defensive role. The Saudi Army provided the brigade transport for its heavy equipment, and it moved all the way to Ar'ar, a border town in the northwest of the KSA, 630km from Tabuk. Situated in the heart of a vast rocky limestone plain, Ar'ar was about 60km from the border with Iraq. The town was founded in 1951 after the Aramco oil pipeline was laid, and situated on the Trans-Arabian Pipeline (Tapline) road connecting Dammam with Jordan. It was named after an oil field designated as RR and the town, which subsequently developed came to be called Ar'ar.

The brigade arrived on 30 January and was deployed near the border, which was being monitored by the Saudi Border Security Force. Having never faced a threat, both the Saudi troops stationed in the area as well as the locals were very apprehensive and jittery.

During the reconnaissance of the border areas, the brigade was asked only one question, "*fein dababat?*" (Where are the tanks?).⁵ There were some American troops stationed at the small Ar'ar airport who often visited the brigade to liaise (and eat a good Pakistani meal), and they were a far better source of information about the on-going conflict than the Saudis. For the offensive into Iraq, the coalition force was assembling 600km further east and consequently there was not a great deal of danger in this sector of the border. Operationally the brigade was more a part of Desert Shield than Desert Storm. In keeping with this role, it was assigned a number of defensive tasks, the main being to block any ingress by Iraqi forces on the axis leading from Karbala in Iraq towards Ar'ar by establishing blocking positions and launching counterattacks.⁶ To familiarise themselves with the area and be ready to execute these tasks, the brigade carried out wide ranging recce and rehearsals down to the level of tank commanders.

The desert in the northern part of Saudi Arabia gets cold in the months of December and January with temperatures at night falling below freezing. Initially, the plight of the soldiers was miserable because they were without winter uniforms. However, as time passed, they were better equipped and became acclimatised. The entire brigade remained under canvas except for the brigade headquarters which improvised by converting containers and prefabricated huts into offices. These had been abandoned by construction companies and had to be swept free of the bucket-loads of sand which had crept inside. The war was short and over by 28 February, but the brigade remained until October 1991. Sitting out in the middle of the desert, it was important for the brigade to keep busy by carrying out technical and tactical training, interunit sports, and professional competitions. All national days were observed befittingly and the brigade held a parade on Pakistan's Republic Day. There were also frequent dinners for the officers and the troops, hosted in turn by units.

If the officers and soldiers have one not so endearing memory of their stay in Ar'ar, it is the heat, sand, and flies in summer. Initially



Officers of the 13th Tank Battalion, Tabuk, February 1983. Sitting, from left to right: Khizr Hayat, Tahir Salim, Haq Nawaz (LAD), Imtiaz Shaukat, Lt Col. Khan Tariq Eqbal, Aslam Panhwar Khan, Salim Ahmed Zafar, Muhammad Ghafoor, Saad Muhammad. Standing First Row L-R: Hamid Ali Rafiq, Shaheen Iqbal, Ch Muhammad Nasim, Muhammad Saeed Akhtar, Tahir Zahid (Artillery), Tahir Habib Siddiqui, Javed Iqbal, Nadir Mir, Kamran Gul, and Fateh Sher Joya. Second Row from left to right: Amjad Naukhez, Tariq Javed, Gul Farid Khan, Mohsin Haider, Saeed Iqbal Warraich, Aziz ur Rehman, Mujahid Umar Khan, Salim Bari, Zahid Iqbal, and Mohsin Shafi Dar.

there was a severe shortage of water and troops were sent to a mosque 20km away to bathe and drink. However, the Saudi Army later provided water tankers containing 20,000 gallons, which were parked within the brigade area, but in the summer sun, the water was scalding hot. The maximum temperature in summer reached 45°C in the shade, and to find some relief in the afternoons, troops used to lie under the vehicles. The flies and mosquitoes were so troublesome that some soldiers took to applying the oil from Sardine tins in the hope that if humans found the smell repulsive, so would insects. After the war ended, the brigade organized contingents to perform the pilgrimage of Umra. Fortunately, Hajj was in June that year enabling a large number to perform the pilgrimage before repatriation. The Saudi government was generous in allowing a sizable number for Hajj at subsidised rates. Finally, in October 1991, the brigade moved back to Tabuk, returned the equipment and stores to the Saudi Army, and enplaned for Pakistan.

Armour in Somalia

A civil war had broken out in Somalia in the late 1980s and in 1992 Pakistani troops had been despatched on a UN Peacekeeping mission. They were the first UN forces to land in Somalia, responsible for securing sea- and airports for the rest to follow. Initially the mandate was to provide, facilitate and secure humanitarian relief as well as to monitor the first UN-brokered ceasefire of the civil war. However, the ceasefire did not hold and as the civil war intensified and UN forces came under rebel attacks, their mandate and strength steadily expanded. By 1993, the UNOSOM II mission consisted of 28,000 troops from 36 nations including Pakistan, whose contingent comprised of an infantry brigade of three infantry battalions and support elements. The US provided 1,200 troops for a Quick Reaction Force (QRF) stationed in ships lying off the coast, to respond in an emergency, but on approval from the Special Operations Command in the US. This was the first time that the forces of the two nations were operating side by side since Pakistan had established military relations with the US in the 1950s.

The primary tasks of the Pakistani brigade were to maintain peace, set up check points to establish the writ of the UN, and intercept the movement or transfer of weapons. It also conducted cordon and search operations to capture the wanted warlords and recover caches of arms and ammunition. On 5 June 1993, following the inspection of an arms cache of Somali warlord Farah Aidid, troops of 10th Baloch at humanitarian feeding stations and other posts came under full-scale attack. An urgent request for tank support to an Italian force stationed in the northern part of Mogadishu arrived too late, and the battalion suffered heavy casualties; 24 martyred and 56 injured.⁷ Until the brigade had its own armour it was decided to drastically curtail operations. The UN agreed to the request by the Government of Pakistan, and 19th Lancers was earmarked to move to Somalia. The regiment formed an independent squadron for an immediate deployment and it arrived in Mogadishu by the end of July 1993. On arrival, the squadron was equipped with eight M48A2C tanks provided by Turkey:

These tanks were dirty pieces of junk which could hardly move. The age-old rule of painting every visible part had been applied on these tanks rather extensively. Hence, the moving parts, which were to be greased, had paint on them making gun manipulation impossible. There were no spare parts or operating manuals.⁸

The guns and fire control system required major repair and maintenance while the communication system had to be re-wired and replaced. With the help of Turkish technicians and their own LAD, within two weeks the squadron made six tanks combat-worthy by cannibalising two tanks. However, it was near impossible to bore sight or zero the guns at the firing range. A Turkish three star general who was the force commander, was invited to the firing range and briefed on the problems with the tanks. He responded positively and a C-130 aircraft arrived from Turkey loaded with spares. With these eight tanks, the squadron was placed at the soccer stadium as the brigade reserve. Following the setback of 10th Baloch, the UN

troops had vacated all the strongpoints established within Mogadishu and patrolling, as well as search and cordon operations, had ceased. Everyone was waiting for the tank squadron to arrive and within two weeks of landing in Mogadishu, it undertook its first operational task to clear roadblocks with a company each from 1st Sind and a Malaysian battalion. The first major operation, which the squadron spearheaded with a US infantry and an engineer company, was the opening up the 21 October Road. This was a critical main supply route for the Coalition Forces in central and north-eastern Somalia. After clearing three roadblocks the force came under intense fire from small arms, RPGs and recoilless rifles. While extricating the US troops, a RPG struck a tank at a short range and it caught fire. The crew tried to drive it back, but close to the stadium, the fire reached the crew compartment and the tank was abandoned.

By September 1993, the Somalis were becoming increasingly hostile: tanks had to escort all moves outside the camp and reinforce almost all the strongpoints. The link-patrolling by the tanks intensified, search and cordon operations increased, and exchanges of fire with Somalis became routine. Since the squadron was critically short of tanks, the Pakistan Army shipped in ten M48A5s in the last week of September 1993. The Army could not spare any more for peacekeeping operations, which delayed the move of the remaining squadrons of 19th Lancers to Somalia. Unfortunately, these ten tanks did not arrive in time for the most intense engagement that the squadron would face.

In an attempt to capture Aidid or his lieutenants, the US forces frequently conducted raids. However, the UN headquarters was not kept informed, because the Americans were concerned about the leaking of information: the Italians especially were suspected for passing on information to the Somalis. On 3 October, a US Army force was despatched to seize two of Aidid's senior lieutenants while they were attending a meeting in the city. Shortly after the assault began Somali militia and armed civilians shot down two UH-60 Black Hawk helicopters with RPGs. Consequently, the raiding force of Rangers and other specialist troops was trapped in a building close to the Olympia Hotel in an area known as the Black Sea neighbourhood, or the *Bakraa* (sheep) Market. The Americans made two attempts to extricate their troops but their unarmoured HUMVEEs could not



Map of the Battle of Mogadishu as on the night from 3 to 4 October 1993.

penetrate through the gauntlet of fire. That very day the squadron with its six tanks had gone to the New Port to receive the ship carrying the M48A5 from Pakistan, and around 15:00 saw the helicopters going in for the raid. At about 18:30 the squadron commander was informed by the brigade headquarters that a raid by the US Rangers had turned into a debacle and was tasked to support the rescue mission. Two sections of 15th Frontier Force in APCs were attached to protect the troop of four tanks detailed for this mission. The troop rushed to link up with the American QRF, but the battalion of US Rangers did not arrive at the rendezvous until 21:30. Also accompanying the relief force was a column of Malaysian wheeled Condor APCs (with some troops) to transport the beleaguered US troops to safety.

The tasks given to the tank troop were to lead the column, cordon off the crash sites, provide fire support to extricate the troops, and cover the withdrawal to the stadium. The tanks rolled out at 22:30,



M60 tanks of 19th Lancers assisting in clearing a roadblock in Mogadishu in 1994.



M60 tanks of 19th Lancers patrolling the streets of Mogadishu in 1994.



M60 tanks of 19th Lancers patrolling the perimeter of Mogadishu International Airport and Seaport, 1994.

leading the relief convoy of over 70 vehicles. Within minutes the convoy came under fire and slugged its way through, inflicting and taking casualties along the way. The ferocity of the ambushes increased as the two-mile long convoy neared the Black Sea neighbourhood. 'It

was very difficult going for the tanks because again they had no eyes, they had no night vision capability, they were in the lead and that was a little slow... but nonetheless, it was an efficient operation. They got there.'⁹ On reaching the crash site, a team of two tanks positioned

itself on the shoulders of the narrow street where the Rangers were trapped and the other two tanks covered the road crossing on either end of this street. The squadron commander, Major Umar Farooq recollected:

While the Americans dismounted and went into the street, our tanks kept on exchanging fire with the Somalis, preventing their efforts to get into the same street. The operation continued throughout the night. The mechanical state of the tanks precluded switching them off. Therefore I told the troop to keep the engines running. At around 04.00 hours, the troop leader told me that the tanks were low on fuel. A tricky situation, but we sent one fuel tank to a nearby strong point and got all the tanks refuelled by calling them back one by one. Finally the Rangers started coming out of the narrow street.¹⁰

The Rangers started mounting the Malaysian APCs, but there was insufficient space to accommodate them all.

Realizing that the trapped Americans were escaping, the Somalis directed heavy fire at the place where the APCs were parked. Consequently the commander of the Rangers battalion ordered the loaded Condors to move, and the tanks and M113s also picked up all that they could. The convoy moved at 06:30 the next morning and within half an hour had reached the safety of the stadium and the Pakistani brigade. Those who could not get into a vehicle ran the 'Mogadishu Mile' alongside while dodging bullets. All through the night, the brigade had remained on alert and followed the progress of the operation by monitoring the wireless transmissions. The American commanders were very impressed with the professionalism displayed by the squadron and grateful for the assistance extended by the tanks which resulted in the saving of precious lives. Major General Montgomery, the Deputy Force Commander in Somalia wrote a letter of appreciation and commendation to the COAS of the Pakistan Army. A statement released by the White House on 19 October 1993 said: 'We have great respect for the courage and steadfastness of Pakistani troops ... who helped rescue soldiers involved in the event of Oct 3rd and 4th'. All four tank commanders (two officers and two JCOs) who participated in this operation were decorated.

After this battle, the US Government decided to withdraw its troops from Somalia and a number of other countries followed suit. To fill the vacuum Pakistan agreed to despatch additional forces including the remaining squadrons of 19th Lancers. In March 1994, its advance party arrived to begin conversion training on M60A1 tanks that the Italian contingent in Somalia had previously operated. By the end of



A T-59IIMP tank of 13th Lancers on patrol in Baranja.

March, the main body of 19th Lancers flew in under the command of Sikandar Afzal, and the regiment occupied a compound vacated by the Americans. For those seeing the war-ravaged city for the first time it was a shock.

The shores of Mogadishu and the first drive through the town was not a sight one remembers with fondness. The whole town gave the impression of having recently lived through a natural calamity, or had seen years of civil war. Only about 30 percent of the buildings were intact, roads were deserted or full of children and women around U.N. compounds, begging for food. No two electric poles were connected with wires, not to mention electricity and water supply. Derelict military equipment lay on roadsides. It was a dismal sight and set one to thinking of what happens to a town when the dwellers fight each other for political gains.¹¹

The arrival of the rest of the regiment was a big relief for the squadron. It had been in operations continuously for the past nine months and after the withdrawal of the American and other contingents, its 17 tanks were deployed all over Mogadishu. Within three weeks, the regiment carried out its conversion, fired at the ranges and deployed within the city.

After the Americans withdrew, the clashes between the Somalis and UN troops diminished. Except for a few isolated incidents of snatching of vehicles, erecting roadblocks, and raiding the relief convoys of the UNHCR, the situation was generally calm. In most of these incidents, the regiment's role was a show of force, and the presence of tanks invariably persuaded the Somalis to negotiate.

The UN finally decided to abandon its mission in Somalia and from January 1995 onwards the deployment of UN troop reduced. 19th Lancers covered the withdrawal to the air- and seaport from various corners of Mogadishu and the neighbouring towns. Finally, a Joint American and Italian taskforce covered the regiment's evacuation by ship to Dar-es-Salam, from where it was flown back to Pakistan in March 1995. For nearly two years, the troops of 19th Lancers had been operating in a high-threat environment, and their performance was a matter of pride for the Pakistan Army and the Armoured Corps. In recognition of its bravery, the regiment earned seven awards including two Sitara-i-Jurats.

The Spearheads in Slavonia

Fifty years after 6th Lancers had fought on mainland Europe, a regiment of the Pakistan Armoured Corps returned, but in a very different role as peacekeepers. As Yugoslavia started breaking up, fighting had erupted between its republics and provinces driven by a strong sense of nationalism. Intense fighting in Bosnia and Croatia flared up in 1991 and continued for five years. In November 1995, the Croats and the Serbs of Eastern Slavonia signed an agreement for the reintegration of the region of Eastern Slavonia with Croatia. To assist in this reintegration, in January 1996, the UN deployed a mission known as UNTAES, short for United Nations Transitional Administration for Eastern Slavonia. The area of UNTAES encompassed Eastern Slavonia, Baranja, and the Western Sirmium regions of Croatia and shared a border with Serbia to the east and Hungary to the north. It was spread over 2,400sqkm: 30 to 40km east to west and 140km north to south. The forces available to UNTAES came from seven nations; making up a composite infantry brigade with heavy engineer support. The mission also had a police component and an observer group.

The contingent contributed by Pakistan consisted of a composite group known as PAKBAT, short for Pakistan Battalion, which had a mechanised infantry battalion, a squadron of 13th Lancers, an artillery battery, an engineer platoon, and support troops. PAKBAT was responsible for Baranja, an area in the north eastern part of Croatia, which was rich in agriculture and forests, and well serviced by a road and rail network. It bordered in the north with the sub-sector of the Belgian battalion (BELBAT), to the west and south by the River Drava and on the east the River Danube flowed for about 35km forming a

natural border with Serbia. PAKBAT had further divided its area of responsibility into sub-sectors and the squadron of 13th Lancers was responsible for the area that lay to the north.

The mission assigned to the force was threefold; firstly by its presence contribute to the maintenance of peace and security in the region; secondly assist in the implementation of the agreement; and thirdly in cooperation with the UNHCR, monitor and assist in the safe return of refugees and displaced persons to their places of origin. The squadron took over the area of responsibility from BELBAT on 4 May 1996, and the same day its tanks rolled out to patrol the villages of Baranja and show the presence of the Pakistani Army in the region. Learning from the experience of Somalia where 19th Lancers faced a major problem with the Turkish M48s, the squadron of 13th Lancers brought their T-59IIMP tanks from Pakistan. Apart from patrolling and manning observation posts, the squadron had a number of 'be prepared' tasks in case of a crisis, but there was never a need to execute them. The two major responsibilities that the squadron had were demilitarisation and holding of elections.¹² The squadron also involved itself in a great deal of humanitarian work that included the protection and escort of refugees, reuniting families, medical aid, and distributing food.

All this greatly assisted in building up the image of the PAKBAT within a population whose attitude at the initial stages was generally indifferent. The Serbs were apprehensive, because they expected a biased and discriminatory attitude from the Pakistani troops. However, through their friendly and helpful approach, PAKBAT gained the trust and confidence of the entire population, which became very friendly and hospitable.¹³ The impartial behaviour of PAKBAT earned them an excellent reputation not only with the local population, but also with the media of the warring factions, and the UN relief organizations. This impartial behaviour was also appreciated during the conduct of elections. The professionalism and motivation of the Pakistani troops was reflected in other areas too. The contingent won the Force Commanders Combat Efficiency Trophy by excelling in a run of 9km with full combat load, which terminated with target shooting. It also won the Force Commanders Sports Championship by excelling in basketball, volleyball, and football. In January 1998, the UN mission was accomplished, and the force returned home.

CHAPTER 9

TWENTY YEARS ON

In these last twenty years, the Pakistan Armoured Corps continued its eventful journey that mirrors the evolution and development of the Pakistan Army. From an organizational perspective, this period has been both of consolidation with raisings of headquarters and armoured regiments to fill in the gaps, as well as expansion to accommodate emerging war fighting concepts. The Corps is now a principal arm and during military confrontations, central to the strike forces at both the operational and tactical level. The most serious confrontation occurred in December 2001 when Freedom Fighters from Indian Held Kashmir attacked the Indian Parliament. The Indian government ordered a total mobilization and full scale deployment of forces on the border and perforce Pakistan responded in kind. However, as earlier during BRASSTACKS, the operational movement and deployment was carefully articulated to decrease the possibility

of further escalation and concurrently provide necessary safeguards. During this confrontation, the armoured formations and regiments moved to their deployment areas with confidence in their equipment. With the ready support of the HIT, the tank fleet was mechanically fit and regiments had their full accompaniment of supporting vehicles such as ARVs and tracked command vehicles. The Defender family of jeeps provided a variety of vehicles for liaison, communication, and casualty evacuation. Similarly, the logistics were well supported with a full range of heavy vehicles. Not since the days of the MAP in the early 1960s were the regiments so satisfactorily equipped. Since the Army had sufficient tanks in reserve, it could rapidly raise armoured regiments for sectors where the threat demanded a stronger response. The rapidity and smoothness with which these raising were accomplished, is a credit not only to the efficiency of the Corps but

also to its mental flexibility that allows it to adjust to new circumstances. Of the two regiments that were raised, 37th Cavalry, continued on the ORBAT of the Corps but 35th Cavalry was disbanded to be re-raised a decade later alongside 36th Cavalry, 43rd Cavalry and 44th Horse. The programs related to the AFVs that were initiated in the 1990s have borne results. The Al-Zarrar with the 125mm gun is in service with a large number of regiments and so is the Al-Khalid. 31st Cavalry was the first to be issued an AFV that had been designed, developed and manufactured in Pakistan and the Guides was the next regiment to field the Al-Khalid. They were handed over in a ceremony at HIT in January 2010, where the President, General Pervez Musharraf was the chief guest. While undertaking series production of the Al-Khalid, HIT has not been content to rest on its laurels and is in the advanced stages of developing a concept for a next generation tank. Concurrently it remains committed to its initial mandate and unfailingly continues with the rebuild of tanks and the large fleet of APCs in service with the mechanized infantry. In the past five years, its major success has been to rebuild and upgrade most of the aging fleet of T-85s to the satisfaction of the Corps. The decision to keep the programs of tank rebuild/manufacture within the folds of the military from the outset proved to be fundamentally sound.

As the equipment of the Armoured Corps modernized, the training regimes in the armoured formations and regiments, as well as the Centre and School have metamorphosed. In the first two decades after Independence, the primary mandate of the School was to impart technical training. However, its role steadily expanded with an increasing focus on career courses for the officers and tactical/leadership courses for JCOs and NCOs. The issues that the Armoured Corps confronted with the leadership and tactical ability of JCOs/NCOs in the first two decades after Independence have been well overcome. With over a hundred fresh entrants from the military academy inducted into the Corps every year and an increasing number of foreign students, the school has steadily expanded its facilities. Unfortunately, in 2010 it received a serious setback when a devastating flood struck and engulfed a major portion of the cantonment. The



The ceremony of handing over the Al-Khalid to the Guides in 2010.



A T-59M leading the advance during operations in Kurrum Agency in 2011.

waters of the River Kabul rose overnight and the School, which lies between the Grand Trunk Road and the river, was caught totally unprepared. Officers and their families asleep in bed found themselves struggling to save life and belongings. Fortunately, the Centre was not affected and was transformed into a large refugee camp as helicopters rescued military personnel and their families from the low-lying areas of the cantonment. The damage to the School was extensive as also to the Armoured Corps Mess and accommodation. Unfortunately, a number of documents, paintings and other memorabilia related to the history of the Corps were destroyed by the floodwaters.

A major problem that had slowly amplified at Nowshera was associated with the firing range at Amangarh. For years a factory that had been erected down-range, remained exposed to ricochets of the rounds of the main gun. However, a more recent problem was the expanding villages that were hemming in the range and a stage came



Colour Presentation Ceremony at Nowshera in March 2016. From left to right: Lieutenant-General Naveed Mukhtar, General Raheel Sharif (COAS) and Brigadier Tufail.

when it became practically unsafe. From a number of options a cost effective solution was devised for re-commissioning the range by constructing berms to screen the village. Though the firing range at Nowshera could be re-activated, the one at Kudai Ranges near Multan ultimately closed down for AFV firing. The reason was different and related to its safe-zone that constrained firing by the tanks equipped with the 125mm gun. Where the safe-zones are adequate, such as at KPT and elsewhere in the desert, the target systems have been enhanced to enable battle groups to manoeuvre with fire. However, training areas have shrunk considerably due to encroachments and compelled the Corps to adopt technical solutions. Over the past decade simulators have been introduced within the framework of an improved training regime that aims at keeping the crews proficient and current. Since they have been designed and manufactured within the country at one-fourth the cost of an import, substantial numbers have been provided to formations and regiments. This has resulted in a visible improvement during field training and firing. The training regime adopted by the Corps covers a variety of roles and tasks it is expected to perform in combat and takes full advantage of the capability of the equipment e.g. regiments equipped with the T-80UD regularly conduct training for fording through water obstacles.

The effectiveness of improved training regimes and equipment like simulators was well demonstrated when the Armoured Corps was inducted into COIN operations in KPK and FATA. Earlier and for the first time, a squadron of T-59s had been issued to the Frontier Corps (FC). An officer from the Armoured Corps commanded the squadron, and the Armoured Corps Centre trained the crews from the FC. The Pakistan Army had been conducting limited operations in Waziristan and elsewhere in KPK since 2003–2004. However, it was only in 2009 when major operations were launched to regain control of districts of Malakand Administrative Division, that armour was employed for the first time to support the ground troops. Their presence was a major factor in the success of the Army and FC in

the opening phase in Buner, the full-scale assault in Swat (Operation RAH-E-RAST), and the exploitation phase into Mohmand. Often operating singly or in pairs in terrain that in a conventional scenario would not be considered suitable for armour, the tanks of 21st Horse and 52nd Cavalry not only provided devastating fire support to the infantry, they also led the advance where the threat level was high. 21st Horse was under command 7th Division and 52nd Cavalry was the training regiment with the School of Armour. The Al-Zarrars of 52nd Cavalry dominated the terrain in all conditions of visibility with night sights and enabled innovative tank commanders to employ the heavy coax machinegun as a sniper weapon at night. Though constantly exposed to the fire of RPGs, even the relatively older T-59Ms of 21st Horse proved their worth. Some absorbed up to three strikes and continued to fight. Immediately after securing Swat, the army launched the multi-pronged Operation RAH-E-NIJAT to wrest control of the South Waziristan Agency, and 4th Cavalry, which was based in Kohat and under command of 9th Division, supported the operation. It was subsequently replaced by 11th Cavalry. The success in South Waziristan was followed by operations in Orakzai Agency in 2010 and Operation KOH-E-SUFAID in the agency of Kurrum in 2011, both of which were secured after some tough fighting.

After a gap of three years, the Pakistan Army with extensive support from the air force, launched Operation ZARB-E-AZB in 2014, to secure North Waziristan and flush out foreign and local militants from their last sanctuaries in FATA. For the first time, the Army implemented a comprehensive strategy of Seek, Destroy, Clear and Hold. Preceded by days of extensive air strikes, and a final integrated shoot by tanks, artillery and other heavy-weapons against the militant groups in Miranshah, the town was assaulted and secured in less than ten days of fighting. With the support of tanks of 41st Horse, the infantry opened up the lines of communication and secured the other population centres. In the one and a half years after the start of the operation, phenomenal successes have been achieved, with



A T-59M engaging militants at night in Orakzai Agency in 2011.



The FC Squadron of T-59 tanks preparing for a shoot in the Orakzai Agency in 2011.



A T-59M of 41st Horse in over-watch during Operation ZARB-E-AZB in North Waziristan.

the last pockets close to the Pakistan-Afghan border being cleared. The backbone of the militants has been broken and their structure dismantled. Tanks and infantry have penetrated deep into the mountains that were considered to be impregnable. In all operations in FATA, tanks were employed in a similar manner as earlier in the Malakand Administrative Division. However, their role extended to over-watch by placing them on crests from where they could

dominate the terrain. The crews became experts at engaging targets at very long ranges. In a HE shoot that was captured on video, a T-59M with its 105mm gun destroyed a militant post located on the crest of a mountain at a distance of approximately 5,000 meters.

The experience gained by the armour crews has been invaluable. It has not only increased their confidence in operating under fire, there has been a sharp increase in their learning curve which no amount of peacetime training can replicate. Nearly all the armoured regiments have been rotated through COIN operations. A large number of these have been on hold operations, which in a high threat environment are a demanding task requiring a high state of alertness round the

clock. Prior to their operational deployment, the regiments underwent a stringent training regime. It replicated the environment in which they would have to subsequently operate and ensured that casualties were avoided. Casualties have occurred but as in previous conflicts, the ratio of officers to soldiers remains consistently high as the culture within the Corps demands that officers lead from the front. During the period that armoured regiments have deployed in COIN operations, the training for conventional warfare has obviously been affected. However, this has been offset by the experience of operating in a high threat environment and the contrast in the confidence and efficiency of officers and troops before and after a rotation through FATA is striking. It is on record that with a similar experience in frontier operations, during the early days of the campaign in Africa in the Second World War, the officers and troops of the British India Army outperformed those of the British Army. The benefit of experience in an environment of conflict is not limited to the officers of the regiments in direct combat. Most majors and below of the Corps have been cross-attached with these regiments on rotation and it is considered as an essential pre-requisite for advancement in their careers.

At the senior level, major generals and brigadiers from the Corps have commanded infantry formations and promising Armoured Corps officers are regularly posted on staff in FATA. Three Inspectors General of the FC in KPK were also appointed from the Armoured Corps: Tariq Khan, Nadir Zeb and Shaheen Mazhar Mehmood.

In his address to the Centre in 1948, the Quaid stated that the cavalry was the spearhead of the Army. Obviously, he was aware that

Comparison of the Formation Headquarters and Armoured Regiments of the Pakistan Armoured Corps					
	1955	1965	1971	1985	1995
Number of Tank Regiments	6	18 ⁱ	25	29 ⁱⁱ	42
Number of Armoured Brigade HQs	1	4 ⁱⁱⁱ	8	9	11
Number of Armoured Division HQs (and equivalent) ^{iv}	---	1 ^v	2	2	4
Ratio of Armoured Division HQs (and equivalent) to Armoured Brigades	---	1:4	1:4	1:4	1:3
Ratio of Armoured Brigade HQs to Tank Regiments	1:6	1:4.5	1:3	1:3.3	1:4
Ratio of Armoured Division HQs to Tank Regiments	---	1:18	1:12	1:15	1:10
i. Includes four TDUs. ii. Includes 29th Cavalry, which was re-raised in 1974. iii. Includes 100th Independent Armoured Brigade Group. iv. Includes the headquarters of the mechanised divisions. v. Instead of HQ 6th Armoured Division, the HQ of 100th Independent Armoured Brigade has been accounted for.					

in its nascent stage, the Corps was too small an arm to come up to this role, but he was providing a vision and half a century later the Corps can proudly state that it has been fulfilled. The importance that the Father of the Nation gave to the Pakistan Armoured Corps by his visit and address was recognized in 2013, and the unique title of Jinnah's Own was conferred on the Corps. The Corps had been presented with the National Colours in 1962, but with the addition of this title to its crest, there was a need to replace the old colours. For this a ceremony was held in March 2016 which was attended by 300 serving and retired officers and guests. It was preceded by the investiture of Lieutenant General Naveed Mukhtar as the new Colonel Commandant of the Armoured Corps. The old colours were then paraded for the last time and escorted by a contingent of 150 soldiers drawn from all the armour regiments as well as a detachment of the President's Body Guard. In previous times, it was important for soldiers to recognize their regiment's colours in battle. It was therefore a custom at the end of the day to march the colours in front of the ranks before lodging them for the night. This custom has survived in a ceremony known as Trooping the Colours. After a farewell salute the old colours were retired to the Armoured Corps Mess, and the new colours were presented by the COAS, General Raheel Sharif.

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Every effort has been made to provide full and complete bibliographical information, however, in some instances it has not been possible, particularly with regards to place of publication.

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- Yusuf, Muhammad, Lt Gen, *As We Were*.

Notes

Chapter 1

- 1 David Omissi, *The Sepoy and the Raj. The Indian Army, 1860-1940* (Macmillan, 1994) p.86.
- 2 Alexander Wilson, *Mechanization and the Test of Battle: The Indian Cavalry, 1939-41*. Paper presented at the British Commission for Military History. Summer Conference 2012. The Sikh squadron of Central India Horse (which was the first mechanized regiment to be sent overseas in July 1940), mutinied at the Bombay docks and refused to embark. It was replaced by a Dogra squadron from 11th Cavalry.
- 3 Ashok Nath, *Martial Race Theory in the South Asian context*.
- 4 Arthur, *The Martial Episteme*. From the late nineteenth-century until the Second World War, the British published handbooks on the ethnic groups that they recruited. Written by officers of the various regiments, they were in effect practical ethnographies intended to aid the British in controlling and gaining the respect and loyalty of their troops.
- 5 D.P. Marston, *Phoenix from the Ashes*. p.288.
- 6 Ashok Nath, *Izzat: Historical Records and Iconography of Indian Cavalry Regiments, 1750-2007*. p.407-408.
- 7 Alan Jeffrey and Patrick Rose (eds), *The Indian Army, 1939-47*. p.180.
- 8 Interview with Brigadier Mukhtar. Pakistan Armoured Corps.
- 9 Interview with Colonel Samiuddin Ahmed. Pakistan Armoured Corps.
- 10 All Bengali Muslims were repatriated to Bangladesh after the 1971 War and the large number who had served in 28th Cavalry then raised 1st Bengal Lancers; the first armoured regiment in the Bangladesh Army.
- 11 Stephen P. Cohen, *The Pakistan Army*. p.135.
- 12 During the First World War, CIH fought both on the Western Front in Europe and with General Allenby in Palestine.
- 13 Nath, *Izzat*. p.407.
- 14 The British adopted the title of jemadar from the Zimidar or landlords. The jemadars were the armed officials of the Zimidars. Until 1857, there was an intermediate rank of ressaider between the risaldar and the jemadar. However, the rank became obsolete. See: Philip Mason, *A Matter of Honour*. p.316.
- 15 Cohen, *The Pakistan Army*. p.35.
- 16 Ibid.
- 17 Interview with Lieutenant General Hameed Gul. Pakistan Armoured Corps.
- 18 Interview with Brigadier Hamayun Malik. Pakistan Armoured Corps.
- 19 *Remembering Our Warriors*. Brigadier Zaheer Alam Khan.
- 20 Interview with Major General Zafar Abbas. Pakistan Armoured Corps.
- 21 The author enquired from Maj. Gen. Shahid Hamid about the quality of VCOs in the cavalry regiments of the British India Army. "They were very good," replied Gen. Hamid, "some even commanded squadrons in the field," however, with a smile he added, "field exercises in those days were quite simple. The solution to most tactical problems was lances down and charge."
- 22 There were 30 officers authorised to tank and recce regiments during the Second World War. Consequently, tank and recce troops were commanded by either British or Indian ECOs. Officers and VCOs were basically tank commanders.
- 23 Interview with Lieutenant General Hameed Gul. Pakistan Armoured Corps.
- 24 Brigadier Zaheer Alam Khan, *The Way it Was*. p.234.
- 25 Nath, *Izzat*, p.i.
- 26 In his authoritative work on the British India Army, *A Matter of Honour*, Philip Mason defines *izzat* as glory, honour, reputation. He also speaks of *Ghairat*, which according to him is more personal and to do with an individual's integrity. See p.127.
- 27 General K.M. Arif, 'The Unknown Soldier' *The Sabre and Lance. Journal of the Pakistan Armoured Corps*. 1977-78.
- 28 Cohen, *The Pakistan Army*. p.36.
- 29 John Connell, *Auchinleck. A Critical Bibliography*. Cassel 1959. p.947.
- 30 Brigadier Said Azhar, *Reflections of 19th Lancer's Days*.
- 31 Carey Schofield, *Inside the Pakistan Army*. p.99.
- 32 Fazal Muqem Khan, *The Story of the Pakistan Army*. p.222.
- 33 Husain, *1947 Before During After*. p.49.
- 34 Interview with Brigadier Jafar Khan. Pakistan Armoured Corps.
- 35 To foster the regimental system, the Military Secretary's Branch will where possible accept the 'claim' of a cadet to be posted to a regiment/battalion if an immediate relative was or is serving in that particular unit.
- 36 The two branches were decedents of two bothers, Darvesh Khan who remained settled in Chakri and Kala Khan who migrated to Naramatore.
- 37 Shahid Hamid had no links with the cavalry but Mir Jafar, an ancestor from his maternal side was the first subedar major of the 1st Regiment of Punjab Infantry (renumbered as 55th Coke's Rifles) and was injured during the siege of Delhi in 1857.
- 38 *Digest of Service*, 7th Battalion, Frontier Force Regiment.
- 39 M. Zafar, *Prince, Soldier, Statesman. Sahabzada Yaqub Khan*.
- 40 Colonel E.A.S. Bokhari, *Late Gen Gul Hasan. A Trainer of Men with a Difference*.
- 41 Lieutenant General Gul Hassan Khan, *Memoirs of Lt. Gen Gul Hassan Khan*. p.93.
- 42 Col. Abdul Qayyum, 'Remembering Lt Gen Gul Hasan'. *Defence Journal*, March 2000.
- 43 Eftikhar Khan's mother was a British national of Iranian origin, and his father was a barrister who had done his Bar at Law from London. He was the stepbrother of Major General Ijaz Amjad.
- 44 After Independence, Eftikhar Khan was officiating commander of 3/10th Baluch at Sialkot. A group of Muslims approached him and told him that they would be searching the houses of non-Muslims of the area and he should not be concerned. Iftikhar kicked their spokesperson out of the room with the warning that if anybody tried to take the law in their own hands, he would shoot them. See: Hamid Hussain: *Lest we Forget*.
- 45 Colonel M.Y. Effendi, *Punjab Cavalry. Evolution, Role, Organization, and Tactical Doctrine. 11 Cavalry (Frontier Force) 1849-1971*. (Oxford University Press, Karachi, 2007). p.235
- 46 Khan, *The Way it Was*. p.63.
- 47 The line-up of the commanding officers of the mechanized infantry battalions was no less impressive including Ahmed Kamal and Rahat Latif.
- 48 Interview with Major General Zafar Abbas. Pakistan Armoured Corps.
- 49 Interview with General Jehangir Karamat. Pakistan Armoured Corps.
- 50 Hazart Shamsuddin Muhammad Amber Kulal was a Naqshbandi Sufi Saint of Bokahra and a decedent of the Prophet Muhammad (PBUH) through Hazrat Ali. His subsequent generations were mentors to the first Mughal Emperor, Zhair-ud Din Babar.
- 51 *Men of Steel. 6 Armoured Division in the 1965 War*. p.35.
- 52 Husain, *1947 Before During After*. p.250. The event Wajahat Husain refers to was related to some officers of the division who were plotting to forcibly remove General Yahya Khan and Lieutenant General Hameed after the 1971 War.
- 53 The college was founded in 1881 by the members of the Cambridge Mission to Delhi, an Anglican mission organized from the alumni of Cambridge University. It still is amongst the best colleges in India for both arts and sciences; and its ex-pupils include Fakhruddin Ali Ahmed, former President of India, the actor Kabir Bedi, and the author Khushwant Singh.
- 54 Shahid Javed Burki, 'Pakistan under Zia, 1977-1988', *Asian Survey*, No 28. October 1988.
- 55 Colonel Abdul Qayyum, *Zia-ul-Haq and I*.
- 56 Interview with Lieutenant General Farrakh Khan. Pakistan Armoured Corps.
- 57 Khan, *Memoirs of Lt. Gen. Gul Hassan Khan*. p.401.

- 58 The Silladari regiments had only four appointments for European officers; the commandant, the second-in-command, the adjutant, and a surgeon.
- 59 Major General Gurcharan Singh Sandhu, *The Indian Cavalry*. p.444. To cover the cost of initial outlay, the soldier lodged a deposit with the regiment, refundable on death or retirement, but forfeited in case of desertion or dismissal, so ensuring a high quality of recruit and discipline. If a horse was killed or hurt on duty, a replacement was provided from regimental funds. If it went lame or sick from neglect, the soldier's pay was reduced to infantry rates until it recovered, or he supplied another.
- 60 Some of these regiments bore the name of these iconic entities like Gardner, Skinner, Hodson, Probyn, Sam Browne, etc.
- 61 Effendi, *Punjab Cavalry*. p.181.
- 62 Charles Chevenix-Trench, *The Indian Army and the King's Enemies 1900-1947*. p.26.
- 63 General K.M. Arif, 'Down Memory Lane', *The Sabre and Lance. Journal of the Pakistan Armoured Corps*. Golden Jubilee Issue. 1997. p.47.
- 64 Interview with Brigadier Mir Abad Hussain. Pakistan Armoured Corps.
- 65 Effendi, *Punjab Cavalry*. p.173.
- 66 Quote is attributed to John Steinbeck.
- 67 This event was combined with the celebration of the 125th anniversary of 11th Cavalry. Initially 11th Cavalry proposed that Prime Minister Bhutto be installed as its honorary colonel but Zia ul Haq who was the Colonel of the Corps, and also commanding 1st Armoured Division proposed that the Prime Minister should be Colonel-in-Chief of the Corps. On this occasion, the regiment changed its badge by replacing 'Kabul to Kandahar' with an Islamic motto.
- 68 Husain, *1947 Before During After*. p.256.
- 69 Baron Christopher Bromhead Birdwood, *Two Nations and Kashmir*. p.68.
- 70 The other system was the Continental System. It was based upon an industrial model and suited to large armies in which the majority of soldiers were conscripts. It was constructed around divisions, and corps and units were identified only by serial numbers. The soldiers did not belong to a particular regiment for extended periods and could be moved from regiment to regiment as required.
- 71 *The Sabre and Lance. Journal of the Pakistan Armoured Corps*. 1972. Volume IX. p.(v).
- 72 Cohesion refers to the feelings of identity and comradeship that soldiers hold for those in their immediate military unit, the outgrowth of face-to-face or primary (horizontal) group relations.
- 73 Effendi, *Punjab Cavalry*. p.181.
- 74 Until 1967, officers of the Armoured Corps on ERE wore the badge and shoulder titles of the Armoured Corps. The shoulder titles had the words AC and the cap badge was the Corps insignia of crossed lances.
- 75 Hamid Hussain, *Obituary of Colonel Aga Javed Iqbal (October 23, 1930 – July 16, 2013)*.
- 76 See Volume 1 for the recommendation by Major General Martel, Commander of the Royal Armoured Corps who visited India in 1942 and revamped the Indian Armoured Corps and the repair and maintenance of tanks.
- 77 Interview with Brigadier Amir Gulistan Janjua. Pakistan Armoured Corps.
- 78 *The Sabre and Lance. Journal of the Pakistan Armoured Corps*. 1958. p.40.
- 79 Captain Michael M. O'Leary, *The Regimental System*.
- 80 Ian Sumner, *The Indian Army 1914-1947*. p.32.
- 81 The word 'mess' derives from the Old French *mes*, meaning portion of food. From this, a group of people eating together became known as a mess. Hence, Officers Mess.
- 82 There was also a painting of the British monarch in the anteroom. When Pakistan became a republic, it was returned to Her Majesty's Government, and replaced by one of Quaid-i-Azam Muhammad Ali Jinnah.
- 83 Hal Bevan Pitman was a most sought-after artist until his death in 1980. He painted practically every notable personality including Muhammad Ali Jinnah and other heads of state, senior officers of the Pakistan Army, and recipients of the Nishan-e-Haider. His permanent residence was at the Rawalpindi Club with his wife Berylle and they spent the summers in Abbottabad.
- 84 *The Sabre and Lance. Journal of the Pakistan Armoured Corps*. 1959. p.61.
- 85 Husain, *1947 Before During After*. p.161.
- 86 Ibid.
- 87 After Pakistan became a republic, the toast was made to the President of Pakistan until 1971 and discontinued when the messes went dry.
- 88 Major General Aboobaker Osman Mitha, *Unlikely Beginnings: A Soldier's Life*. p.264. Due to a severe financial crisis, in 1948 the government was forced to reduce the pay of the armed forces. However, this reduction could not be applied to the KCIOs because they continued to be paid in Pounds by the British Government.
- 89 Interview with Major General Kamal Matinuddin. Pakistan Artillery.
- 90 Husain, *1947 Before During After*. p.161. The Indian Army also abolished the regimental mess, but soon realized their mistake and reverted to the old system thus restoring the lost standards.
- 91 Interview with Lieutenant General Hameed Gul. Pakistan Armoured Corps.
- 92 Sandhu, *The Indian Cavalry*. P. 405 & p.445. Under the *silladar* system, the dress in a regiment was to some extent a matter for the commanding officer to decide, as he was responsible for clothing his men. After the amalgamation in 1922, basic clothing was issued by the Ordnance resulting in standardisation, but some minor variations continued. There was no standard dress similar in every detail for the cavalry, but the basic items were the same.
- 93 Jeffrey and Rose (eds), *The Indian Army, 1939-47*. p.186.
- 94 A *Tosh-dan* is the pouch belt worn across the chest. It is a Persian word, *tosh* meaning ammunition and *dan* a container. The pouch at the back was for carrying ammunition. The purpose of the two spikes in the front was to disable the muzzle loaded artillery guns. The spike, which was made of soft metal, was pushed into the hole from where the fuse was inserted and broken off, thus blocking the hole.
- 95 Interview with Major General Khurshid Ali Khan. Pakistan Armoured Corps.
- 96 It was around this period that there was a merger of the Pathan regiments and the Frontier Force Rifles were merged with the Frontier Force Regiment and it was authorised to wear black belts and web equipment.
- 97 In 1988-89 when the Army Air Defence Command was in the process of being formed and initiated a case for wearing the black beret, there was strong resistance from the Armoured Corps and the Air Defence Command yielded. Narrated by Captain Zuha Saeed, 28th Cavalry.
- 98 Though the British Royal Armoured Corps adopted the beret after the First World War, the officers of the regiments converted from the horse cavalry disapproved of this headdress and continued to wear peaked caps. Only the officers of the Royal Tank Regiment (RTR), where it was first introduced, wore berets. For this reason, even after Independence, in the Pakistan Army the ordnance nomenclature for the beret was Cap RTR. Information provided by Major General Khurshid Ali Khan, 11th Cavalry.
- 99 *The Sabre and Lance. Journal of the Pakistan Armoured Corps*. 1972. Volume IX. p.(v).
- 100 According to the ADR all officers above the rank of lieutenant colonels have to wear blue berets and *khaki* belts

Chapter 2

- 1 See Volume 1 of *At the Forward Edge of Battle*.
- 2 Khan, *The Story of the Pakistan Army*. p.59.
- 3 The scheme for training of boys for subsequent enrolment into the training centres accepted them within an age of 15 to 16 years and education of 4th grade.
- 4 The title of Sam Browne was added because of the Centre's pre-Independence links with the training regiment. However, when 12th Cavalry was re-activated in 1955, the reference to this regiment was removed from its title.
- 5 Many years later, during the tenure of Ejaz Azim as Centre Commandant, these words were engraved in marble at the base of the flagpole at the quarter guard. The appointment of Director Armoured Corps was introduced in 1955.
- 6 Address to the Armoured Corps Centre, Nowshera, by Quaid-i-Azam Muhammad Ali Jinnah on 13 April 1948.

- 7 Before Independence, Sahibzada was the training adjutant at the Armoured Corps Training Wing at Babina. He returned to the school in 1962 as Chief Instructor and also officiated as commandant.
- 8 'Down Memory Lane', *The Sabre and Lance. Journal of the Pakistan Armoured Corps*. Golden Jubilee Issue. 1997. p.47.
- 9 Khan, *The Story of the Pakistan Army*. p.50.
- 10 'Ahmednagar to Nowshera', *The Sabre and Lance. Journal of the Pakistan Armoured Corps*. Golden Jubilee Issue. 1997. p.33.
- 11 *Obituary. Col. John Wakefield*. Published in *The Times*, 1992.
- 12 This information was extracted from a letter written by Lieutenant Colonel Douglass Gray, President of the Indian Cavalry Officers Association in 1998 in response to an enquiry from the commandant of the School of Armour.
- 13 *The Sabre and Lance. Journal of the Pakistan Armoured Corps*. Issue N° 1. June 1953. The driving force behind the accommodation in Naran was el Effendi, a keen fishermen. The land was procured during his first tenure as Director Armoured Corps, and the hut was constructed during his second tenure.
- 14 The site chosen was 8km ahead of the small metropolis of Naran near the village of Souch, where the valley opened up and the forest and meadows dipped down to the river.
- 15 Khan, *The Way it Was*. p.85.
- 16 Muslim, Sindhi and Balochi (MS&Bs) was the designation for a class established to absorb the Ranghars, Kaim Khanis, Muslim Rajputs, and Hindustani Muslims who transferred to the Armoured Corps at Independence. At this time, there was also a small percentage of Bengali Muslims from East Pakistan.
- 17 Up to the 1970s, the Kunar River in the Kaghan Valley was fishermen's paradise and since the days of the British, compared very favourably with other trout streams in Kashmir and further east. Stocked by the hatchery at Shino, the river boasted trout weighing up to one and a half kilograms that put up an excellent fight and bags of over 15 trout in a day were not uncommon.
- 18 In June 1955, Lieutenant Khaliq Dad of 19th Lancers met a fatal accident on the Kaghan Valley road.
- 19 *The Sabre and Lance. Journal of the Pakistan Armoured Corps*. Issue N° IV. 1956.
- 20 Interview with Brigadier Zaheer Alam Khan, by A.H Amin.
- 21 Interview with Lieutenant General Raja Saroop. Pakistan Armoured Corps.
- 22 Ibid.
- 23 Ibid.
- 24 'Message by Col. Pir Abdullah Shah', *The Sabre and Lance. Journal of the Pakistan Armoured Corps*. Golden Jubilee Issue. 1997. p.9.
- 25 *Glance in Time*. An unpublished brief compiled by the Armoured Corps Centre.
- 26 After the 1971 War and the separation of East Pakistan, the Centre had the unpleasant task of demobilising the Bengali soldiers who were despatched back from the regiments and sent to an internment camp at Dargai Fort near Mardan.
- 27 *Reminiscences of a Decade of Service in Armoured Corps Centre*.
- 28 Ibid.
- 29 *GHQ Training Directive NO 14. SPECIAL/51 issued in August 1951*. Archives of Maj. Gen. Syed Shahid Hamid.
- 30 Interview with Brigadier Zaheer Alam Khan by A.H Amin.
- 31 The formal approval for the new emblem was given when the School celebrated its Golden Jubilee in 1997.
- 32 Daniels also commanded 30th TDU in the 1965 War.
- 33 *Sabre and Lance. Journal of the Pakistan Armoured Corps*. Issue No 1. June 1953.
- 34 'A Brief Survey of the Sabre and Lance', *The Sabre and Lance. Journal of the Pakistan Armoured Corps*. Golden Jubilee Issue. 1997. p.369.
- 35 *History to the 19th King George's Own Lancers 1858-1921*. p.65-66.
- 36 'Memoirs', *The Sabre and Lance. Journal of the Pakistan Armoured Corps*. Golden Jubilee Issue. 1997. p.42.
- 37 Letter written in 1998 by Lieutenant Colonel Douglass Gray, President of the Indian Cavalry Officer's Association to the Commandant School of Armour, Nowshera.
- 38 *Ahmednagar to Nowshera*, op.cit. p.32.
- 39 Major General Shaukat Riza, *The Pakistan Army 1947-49*. p.158.
- 40 Interview with Brigadier Said Azhar. Pakistan Armoured Corps.
- 41 Ibid.
- 42 Interview with General K.M. Arif. Pakistan Armoured Corps.
- 43 Khan, *The Way it Was*, p.128.
- 44 Interview with Brigadier Said Azhar. Pakistan Armoured Corps.
- 45 Husain, *1947 Before During After*. p.180.
- 46 Interview with Brigadier Amir Gulistan Janjua. Pakistan Armoured Corps.
- 47 'The ARA Competition (1962)', *The Sabre and Lance. Journal of the Pakistan Armoured Corps*. 1963.
- 48 'A Decade in Pakistan 1947-1957', Newsletters of 13th Lancers.
- 49 Tilla Jogian which means the 'Hill of Saints' is the highest peak in the Eastern Salt Range, rising to 975 meters above sea level.
- 50 Bokhari, *Late Gen Gul Hasan*.
- 51 The name Cholistan is derived from the Turkic word *chol*, which means desert.
- 52 A *toba* is a large pond constructed in the desert to store water for the animals.
- 53 Mitha, *Unlikely Beginnings*. p.303.

Chapter 3

- 1 Khan, *Memoirs of Lt. Gen. Gul Hassan Khan*. p.93.
- 2 Khan, *The Story of the Pakistan Army*. p.141. According to Riza, *Pakistan Army War 1965*, the exercises were to test officers and the verdict confirmed or rejected the commanders in their appointment. The director of TAS even attended the GHQ promotion boards from major upwards.
- 3 Lieutenant General Muhammad Yousuf, *As We Were*. Major General Kempster was the first leader of the training team, followed by Major General P. W. Claireford, DSO.
- 4 Mitha, *Unlikely Beginnings*. p.158. Husain, *1947 Before During After*. p.179.
- 5 Riza, *The Pakistan Army 1947-49*. p.302.
- 6 *GHQ Training Directive 15/1951 of 6 September 1951*. Archives of Major General Syed Shahid Hamid.
- 7 Riza, *The Pakistan Army 1947-49*. p.28.
- 8 Khan, *The Story of the Pakistan Army*. p.142.
- 9 Khan, *The Way it Was*. p.49.
- 10 Ibid. p.50
- 11 *Stonk* was British Army slang for the concentrated fire of artillery.
- 12 *GHQ Training Directive 6/1950, 26 December 1950*. Archives of Major General Syed Shahid Hamid.
- 13 *GHQ Training Notes 11/1951, 9 August 1951*. Archives of Major General Syed Shahid Hamid.
- 14 The training note pointed out that when the German armour started retreating, the British armour commanders had to be restrained from quitting their positions to indulge in an 'armoured charge' against the withdrawing enemy. Lieutenant General Horrocks stated that such MCC (Mount, Cheer, and Charge) tactics would have resulted in heavy casualties on the inevitable anti-tank screens laid out to cover the German withdrawal.
- 15 *Report of Conference of Commandants of GHQ Training Establishments. April 1954*. From the archives of Major General Syed Shahid Hamid.
- 16 'Remembering Our Warriors. Brig Shamim Yasin Manto', *Defense Journal*, February 2002. Husain, *1947 Before During After*. p.179.
- 17 *A Decade in Pakistan 1947-1957*, Newsletters of 13th Lancers.
- 18 Ibid.
- 19 Husain, *1947 Before During After*. p.179.
- 20 *A Decade in Pakistan 1947-1957*.
- 21 The sun compass does not have the drawback of a magnetic compass

- which cannot be used from a moving vehicle or a tank as the mass of metal gives an error in the reading. There were many designs of the sun (or solar) compass used during the Second World War on aircraft, ships and by ground forces. The type that the Pakistan Army inherited on Independence was the all-steel Abrams Solar Compass.
- 22 Interview with Brigadier Asmat Baig. Pakistan Armoured Corps.
 - 23 *The Sabre and Lance. Journal of the Pakistan Armoured Corps.* Volume 6. Dec 1959. p.10.
 - 24 Khan, *The Story of the Pakistan Army.* p.142.
 - 25 The exercise was named after a flat horse race in Great Britain, which was first run in 1876.
 - 26 Khan, *The Story of the Pakistan Army.* p.142.
 - 27 13th Lancers had the impression that the other tank regiments of the armoured brigade had manipulated the regiment being detailed as the enemy. With this grudge, Colonel Nawaz was determined to prove his and the regiment's mettle. Reference: Interview with General K. M. Arif.
 - 28 Brigadier M. Sher Khan, *150 Years of 6th Lancers. A Regiment Par Excellence. A Brief Tribute Cum History.*
 - 29 Interview with Brigadier Amir Gulistan Janjua. Pakistan Armoured Corps.
 - 30 Effendi, *Punjab Cavalry.*
 - 31 Interview with Colonel Samiuddin Ahmed. Pakistan Armoured Corps.
 - 32 A.R. Siddiqi, *The Military in Pakistan: Image and Reality.* p.42.
 - 33 Ibid, p.42.
 - 34 *A Decade in Pakistan 1947-1957.*
 - 35 Khan, *The Way it Was.* p.68.
 - 36 Khan, *The Story of the Pakistan Army.* p.142.
 - 37 *Report on the Second Conference of Commandants of GHQ Training Establishments 1955.* p.3. From the Archives of Major General Syed Shahid Hamid.
 - 38 *Commander-In-Chief's Collective Training Directive-1955.* From the Archives of Major General Syed Shahid Hamid.
 - 39 Khan, *The Story of the Pakistan Army.* p.144.
 - 40 Ibid.
 - 41 *Instruction on 7th Division Reorganization and Trails – GHQ Exercise,* Issued by GHQ on 17 November 1955. From the archives of Major General Syed Shahid Hamid.
 - 42 Colonel Nawaz raised an ad hoc headquarters to monitor the exercise which subsequently formed the nucleus for the raising of 4th Cavalry.
 - 43 Siddiqi, *The Military in Pakistan.* p.47.
 - 44 Interview with Major General Khurshid Ali Khan. Pakistan Armoured Corps. A coincidence of fate was that during AGILITY, Nisar Ahmed commanded the armoured brigade. He was the same officer under whose command the tanks of 1st Armoured Division struggled to get across the BRBL Canal, and the Rohi Nalluh during the 1965 War.
 - 45 *Notes for C-in-Cs Discussion on 19 Mar 56.* From the Archives of Major General Syed Shahid Hamid.
 - 46 The role of the M36B2s was defensive and they were to be used in support of the infantry division. As early as 1956, the C-in-C had identified the 106mm RR as a possible replacement for the M36B2s and for the infantry battalions. However, this was subject to trails, which had not yet been conducted. See: *Notes for C-in-Cs Discussion on 19 Mar 1956,* Archives of Maj. Gen. Syed Shahid Hamid.
 - 47 *Notes for C-in-Cs Discussion on 19 Mar 56.*
 - 48 Siddiqi, *The Military in Pakistan.* p.48.
 - 49 Azim Khan, 6th Lancers was probably amongst the first to attend the Advanced Armor Course of nine months at Fort Knox. Bashir Ahmed attended the Armor Officers Advanced Course in USA in 1952.
 - 50 Khan, *The Story of the Pakistan Army.* p.159.
 - 51 Husain, *1947 Before During After.* p.192.
 - 52 Khan, *The Story of the Pakistan Army.* p.159.
 - 53 For a comparison of British and US Military Terminology, consult *US Army Document on British Terminology,* prepared by Military Intelligence Service, War Department, 15 May 1943.
 - 54 During the tenure of Major General Latif Khan as commandant of the Staff College in 1954, the college commenced a serious study of fighting the next war with atomic weapons. While studying each operation of war, the same problem was considered under an atomic threat. See: Itty Abraham, (ed.), *South Asian Cultures of the Bomb: Atomic Publics and the State in India and Pakistan* (Indiana University Press, 2008). p.28.
 - 55 *Report on the Second Conference of Commandants of GHQ Training Establishments 1955.* p.1. From the Archives of Major General Syed Shahid Hamid.
 - 56 *Decade in Pakistan 1947-1957.*
 - 57 *Digest of Service,* 7th Battalion, Frontier Force Regiment.
 - 58 *The Sabre and Lance. Journal of the Pakistan Armoured Corps.* 1954. p.14.
 - 59 'Roll with the Punch', *The Sabre and Lance. Journal of the Pakistan Armoured Corps.* December 1958. p.9.
 - 60 See concluding paragraph of Chapter 4.
 - 61 Husain, *1947 Before During After.* p.201.
 - 62 Tezgam means 'fleet or nimble footed'. Tezgam was also the name of a popular passenger train service, which was started in 1950s, and ran between Karachi and Rawalpindi.
 - 63 General Muhammad Musa, *My Version: India-Pakistan War, 1965.* p.24.
 - 64 Interview with Lieutenant General Hameed Gul. Pakistan Armoured Corps.
 - 65 Musa, *My Version.* p.24.
 - 66 *Digest of Service,* 7th Battalion, Frontier Force Regiment.
 - 67 Ibid.
 - 68 *Military Training Pamphlet No 1 (India). Armoured Units in the Field Part 1. Characteristics, Roles and Handling of Armoured Division 1941.*
 - 69 Husain, *1947 Before During After.* p.201.
 - 70 Interview with Major General Inayat Ollah Khan Niazi. Pakistan Armoured Corps.
 - 71 Khan, *Memoirs of Lieutenant General Gul Hassan.* p.142.
 - 72 Interview with Brigadier Said Azhar. Pakistan Armoured Corps.
 - 73 Siddiqi, *The Military in Pakistan.* p.66.
 - 74 Interview with Lieutenant General Hameed Gul. Pakistan Armoured Corps.
 - 75 Interview with Major General Inayat Ollah Khan Niazi. Pakistan Armoured Corps.
 - 76 Interview with Brigadier Said Azhar. Pakistan Armoured Corps.
 - 77 Major General Shaukat Riza, *The Pakistan Army War 1965.* p.28.
 - 78 Khan, *Memoirs of Lieutenant General Gul Hassan,* p.142.
 - 79 'From Bitter Lakes to Bitter Thoughts', *The Sabre and Lance. Journal of the Pakistan Armoured Corps.* Golden Jubilee Issue. 1997. p.54.
 - 80 As narrated by Major Sheikh Abdur (S.A.) Rehman, 12th Cavalry, to his son Brigadier Naveed Rehman.
 - 81 Zafar, *Prince, Soldier, Statesman.* Major General Jilani had been a defence attaché in the Pakistan Embassy in Washington and worked very closely with General Ayub Khan in those difficult days leading up to the signing of the Mutual Defense Agreement.
 - 82 Zafar, *Prince, Soldier, Statesman.*
 - 83 This was General Guderian's most famous quote, which has become a stock phrase. It roughly meant 'Don't do things by half' but has also been translated as 'Don't Fiddle. Smash'.
 - 84 Zafar, *Prince, Soldier, Statesman.*
 - 85 Ibid.
 - 86 Siddiqi, *The Military in Pakistan.* p.42. During NOVEMBER HANDICAP, one morning Lieutenant General Azam came out of his caravan very excited. 'You see', he told his Brigadier General Staff Brigadier Haq Nawaz, 'This bloody fellow Graziani, all the time quarter-mastering while Rommel all the time was on the move. I want you all to be on the move all the time. Move on and on and on...'.
 - 87 *Digest of Service,* 7th Battalion, Frontier Force Regiment.
 - 88 Ibid.
 - 89 Interview with Lieutenant General Farrukh Khan. Pakistan Armoured

- Corps. 15th Division was commanded by Major General Yahya Khan who subsequently commanded 7th Division in Chhamb during the 1965 War.
- 90 Instructions on 7th Division Reorganization and Trails – GHQ Exercise, issued by GHQ on 17 November 1955. From the archives of Major General Syed Shahid Hamid.
 - 91 Khan, *The Way it Was*. p.114.
 - 92 Prince Aly Khan, the colonel commandant of 4th Cavalry visited the regiment in the field during this exercise.
 - 93 Colonel M.Y. Effendi, 'A Concept for Mechanized Equipment for the Pakistan Army', *The Sabre and Lance. Journal of the Pakistan Armoured Corps*. 1997. p.99.
 - 94 Musa, *My Version*. p.25.
 - 95 Ibid. p.26.
 - 96 Zafar, *Prince, Soldier, Statesman*.
 - 97 Mitha, *Unlikely Beginnings*. p.230.
 - 98 Riza, *The Pakistan Army War 1965*. p.52.
 - 99 'Remembering Our Warriors. Brig Shamim Yasin Manto'. *Defense Journal*, Feb 2002.
 - 100 General Staff Publication. *Armoured Division in Battle, 1967*. p.46.
 - 101 Bokhari, *Late Gen Gul Hasan*.
 - 102 Khan, *Memoirs of Lieutenant General Gul Hassan*. p.86.
 - 103 Bokhari, *Late Gen Gul Hasan*.
 - 104 Interview with Brigadier S. Y. Manto. Pakistan Armoured Corps.
 - 105 Khan, *The Way it Was*. p.57.
 - 106 Interview with Lt Gen Raja Saroop. Pakistan Armoured Corps.
 - 107 Interview with Major General Inayat Ollah Khan Niazi. Pakistan Armoured Corps.
 - 108 Interview with Brigadier Said Azhar. Pakistan Armoured Corps.
 - 109 Effendi, *Punjab Cavalry*. p.235.
 - 110 Interview with Lt Gen Muhammad Amjad. Pakistan Armoured Corps.
 - 111 Mitha, *Unlikely Beginnings*. p.294
 - 112 Ibid. p.303.
 - 113 Effendi, *Punjab Cavalry*. p.235.
 - 114 General Staff Publication. *Armoured Division in Battle, 1967*. p.42. Extract from Section 32 – Conduct. *Armoured Division in Battle, 1967*: 'Early information so gained gives him time to initiate action to meet the situation he is likely to encounter in some six hours' time, or 60 miles [90 km] ahead, so that this radius normally forms the orbit of this operational vision and therefore his reconnaissance.'
 - 115 Riza, *The Pakistan Army War 1965*. p.28.
 - 116 Interview with Brigadier Said Azhar. Pakistan Armoured Corps.
 - 117 Brian Cloughley, *War, Coups & Terror. Pakistan's Army in Years of Turmoil*. p.58.

Chapter 4

- 1 The contents of this chapter have been extracted from published works on the war that cover the plans and actions with a degree of similarity (see Bibliography). The author has therefore not provided specific references.
- 2 Sahib Zad Gul (fondly known as Sabzi), had a remarkable personality, and was two different people on and off-parade. During parade hours, he was a marionette who would not permit even a misdemeanour to go unchecked. Off-parade, he was very social and friendly.
- 3 Successor to the 4th Indian Division of Second World War fame (see Volume 1 for details).
- 4 The brigade traced its ancestry back to the First World War and its insignia was the emblem of the fleur-de-lis presented by the grateful citizens of Charters in France (see Volume 1 for details).
- 5 One of the problems faced by Pakistani troops during the operation was that the milestones were in Hindi and no one could understand what was written on them.
- 6 Unsurprisingly, Rafi Alam was awarded a Sitara-e-Jurat for his bravery and success.
- 7 The War Diary of 16th Light Cavalry revealed that the crucial problem was that India was in the process of converting from the Imperial to

Metric measurement system. Consequently, the Black Elephant Division's formations had maps of four different scales: inch, quarter inch, meter and quarter meter. Tank squadrons and troops had either one or the other and the commanding officer had maps of both scales.

- 8 The oldest of the Indian units involved in the following battle was 16th Cavalry. It had been established prior to 1776 as the 3rd Regiment of Native Cavalry, in service of the Nawab of Arcot.
- 9 Subsequently, Ahmed acknowledged that he should have been more concerned about controlling the squadron in action than getting himself involved in a personal shoot out.
- 10 Singh commanded the 7th Light Cavalry during the Kashmir War of 1948, and occupied the Zoji La Pass with his Stuart tanks, earning himself an award for gallantry.
- 11 The ferocity of the Pakistani resistance can be gauged by the fact that the Indians concluded they were facing a much larger force of two armoured regiments. They also thought they had overrun a brigade headquarters, and the tactical headquarters of 6th Armoured Division when the jeep of the commanding officer of 11th Cavalry fell into their hands. They had mistakenly presumed it to be the tactical rover of the GOC of 6th Armoured Division.
- 12 Z.U. Abbasi had been an instructor at the School of Infantry, Quetta and was posted back to the Guides shortly before the war.
- 13 After the war, his father took some earth from the location where Z.U.s tank had been hit and scattered it on the battlefields of Uhd and Badar in Saudi Arabia.

Chapter 5

- 1 Interview with Maj. Gen. Khurshid Ali Khan. Pakistan Armoured Corps.
- 2 Craig Baxter (ed.), *Dairies of Field Marshal Mohammad Ayub Khan 1966-1972*. p.167. Volkov was a German military scientist who met Ayub Khan in 1967 with a proposal for Pakistan to manufacture a light tank that he had designed.
- 3 Ibid. p.167.
- 4 Ibid. p.222.
- 5 Ibid. p.199.
- 6 Frank Chadwick, *Remembering the T-55 Tank*.
- 7 The Indian T-54/55s during the 1971 war were also supplied with the High Explosive Anti-Tank (HEAT) ammunition.
- 8 A major disadvantage of the steel tracks was that it ripped-up tarmac and while crossing a road the surface had to be covered with a layer of earth. It was time consuming, and finally the armoured regiments came up with a novel solution. Each squadron carried a set of old truck tyres (one on each tank), with which a road six meters wide could be quickly decked.
- 9 The winter-version was lined with fur.
- 10 *1950 to 1973 Armoured Vehicle Radios. General Issue Tactical Radios*.
- 11 The US tanks had a better arrangement in which a box was located at the rear of the hull containing the communication gear.
- 12 Baxter (ed.), *Dairies of Field Marshal Mohammad Ayub Khan 1966-1972*. p.213.
- 13 The Indian T-54Bs/55s had a Point 30 Browning Machinegun for defence against aircraft.
- 14 These observations are based on the personal experience of the author. In 1972, he commanded a mixed squadron of T-55s supplied by the Soviet Union, and Indian T-54Bs captured during the battle of Chhamb in the 1971 War.
- 15 *Foreign Relations of the United States, 1964-1968 Volume XXV, South Asia, Document 475. Memorandum of Conversation between President Johnson and President Ayub. Karachi Airport, December 23, 1967*.
- 16 *Foreign Relations of the United States, 1969-1976. Volume E-7, Documents on South Asia, 1969-1972, Document 5. Telegram 19762 from the Department of State to the Embassy in Pakistan, February 7, 1969, 0126Z*
- 17 Baxter (ed.), *Dairies of Field Marshal Mohammad Ayub Khan 1966-1972*. p.255.
- 18 The author was attached to this squadron for three months in 1969 when it was located in Bhimber, Azad Kashmir. It was manned by officers and crews from 11th Cavalry (FF).
- 19 The Indian Army also modified two Sherman regiments in the early

- 1960s with the same gun, but, as mentioned above, this resulted in serious problems during the 1965 War. Mounted on the tank without strengthening the gearing or taking account of the increased weight or overhang of the barrel made the whole gun system unreliable. Reference: *I Serve. The Eighteenth Cavalry* by Major General Gurcharan Singh Sandu. p.178.
- 20 Baxter (ed.), *Dairies of Field Marshal Mohammad Ayub Khan 1966-1972*. p.222.
 - 21 *Report on U.S. Financed military construction at Kharian and Multan in West Pakistan*. Report of United States Congressional Committee. p.2.
 - 22 Robert P. Grathwol and Donita M. Moorhus, *Bricks, Sand and Marble. U.S. Army Corps of Engineers. Construction in the Mediterranean and Middle East, 1947-1991*. p.150. During the negotiations on the Indus Basin Water Treaty, the Indians initially objected to the construction of Mangla Dam because it was within the disputed territory of Kashmir. Consequently, the Government of Pakistan considered an alternative site at Rasul, 30km downstream of Jhelum. This would have brought the town of Jhelum and the proposed site of the corps headquarters underwater. It was therefore decided to shift it elsewhere.
 - 23 *Report on U.S. Financed military construction at Kharian and Multan*, p.4.
 - 24 Over the centuries Multan had various names but it has been postulated that the current name is derived from the Sanskrit name Mulasthana after a Sun Temple.
 - 25 *Gazetteer of the Multan District 1923-24*. Information is extracted from Chapter 1 – Descriptive.
 - 26 Nath, *Izzat*. p.111.
 - 27 Interview with Lieutenant General Raja Saroop. Pakistan Armoured Corps.
 - 28 *The Baloch Regiment*. Pakistan Defense.
 - 29 Grathwol and Moorhus, *Bricks, Sand and Marble*. p.151.
 - 30 *Report on U.S. Financed military construction at Kharian and Multan*. P.12.
 - 31 *Ibid*. p.12.
 - 32 *Ibid*. p.11.
 - 33 *Ibid*. p.11. The survey team also observed that: ‘These barbers carry a mirror, a basin, and a water jug. The barber squats in any convenient shady spot with the soldier squatting in front of him. He lathers the soldier’s face and shaves him while the soldier holds the mirror to observe the quality of the barber’s work.’
 - 34 The building was originally constructed at a cost of Rs.130,343. In 1989–90, major repair works were carried out at an estimated cost of Rs.519,800.
 - 35 Khan, *150 Years of 6th Lancers. A Regiment Par Excellence. A Brief Tribute Cum History*.
 - 36 Along with the summer heat, in the 1960s and 1970s Multan was notorious for its dust storms which filled the air with choking dust for days on end.
 - 37 Khan, *Memoirs of Lt. Gen. Gul Hassan Khan*. p.235.
 - 38 These were temporary structures and because a rapid form of construction was applied, the roofs had a distinctive balloon-like shape. They were built as accommodation for bachelors and were very uncomfortable as married accommodation.
 - 39 The first corps commander of IV Corps was Lieutenant General Atique ur Rehman.
 - 40 The first corps commander of II Corps was Lieutenant General Khwaja Wasiuddin.
 - 41 The death rate for the six years commencing 1846-47 was 84.61 per 1,000. Some battalions lost up to 218.6 per 1,000.
 - 42 *Gazetteer of the Lahore District 1883-84*. p.165.
- ## Chapter 6
- 1 The contents of this chapter are extracted from authoritative published works on the war (see Bibliography) that cover the plans and actions with a degree of similarity. The author has therefore not provided references except footnotes related to personal accounts, interviews, or direct quotes from publications.
- ## Chapter 7
- 1 At one time, II Corps had five divisions under its command: 1st Armoured Division, and 14th, 35th, 37th, and 41st Infantry Divisions.
- 2 Effendi, *Punjab Cavalry*. p.265.
 - 3 The concept of the Reorganized Plains Infantry Divisions (RAPIDs) was tested during BRASSTACKS. The firepower, mobility, and surveillance capability of the plains infantry division was enhanced by mechanising one brigade and the addition of a second tank regiment, a BMP battalion and a reconnaissance, and support battalion equipped with BRDMs.
 - 4 Cecil Victor, *India’s Army in a Changing World*. Link, February 1986. p.6.
 - 5 P. Kanti Bajpal, et. al., *Brasstacks and Beyond. Perception and Management of Crisis in South Asia*. p.31-34.
 - 6 During BRASSTACKS, a number of key appointments in the Pakistan Army were held by officers from the Armoured Corps including the COAS, General Zia, VCOAS, General Arif, Commander II Corps, Lieutenant General Saroop and DGMO, Major General Naqvi. The armoured divisions were commanded by Hameed Gul and Farrukh Khan. Major General Sajjad was commanding 37th Division, which was grouped with II Corps.
 - 7 Interview with Lieutenant General Farrukh Khan. Pakistan Armoured Corps.
 - 8 *Operation Brasstacks*. Website dedicated to Lieutenant General Prem Nath Hoon, Indian Army.
 - 9 Bajpal, *Brasstacks and Beyond*. p.31-34.
 - 10 Following the attack on the Golden Temple at Amritsar in 1984, which led to an increase in Sikh militancy and a Sikh mutiny in the army, the Indians were very sensitive to the situation in Eastern Punjab. Coupled with this was the vulnerability of their lines of communication to Occupied Kashmir.
 - 11 General K. M. Arif, *Khaki Shadows. Pakistan 1947-1997*. p.270-276.
 - 12 *Operation BRASSTACKS*, Website dedicated to Lieutenant General Prem Nath Hoon, Indian Army.
 - 13 According to Lieutenant General Hoon, BRASSTACKS gave a crippling blow to the equipment, including tracked vehicles, tanks and BMPs. The mileage done by all the vehicles was so high that for three years after the exercise, the Indian Army was unfit for war.
 - 14 In 1985, the training regiments in the Centre were designated as 1st Cavalry and 2nd Cavalry. In the British Indian Cavalry and Indian Armoured Corps, these numbers belonged to 1st (Skinner’s) Horse and 2nd Lancers (Gardner’s Horse).
 - 15 6th Lancers remained with 1st Armoured Division for 13 years from 1966 till 1979, and 30th Cavalry moved out of Multan after 12 years. 11th Cavalry remained with 100th Armoured Brigade/6th Armoured Division for 23 years from 1953 till 1976. 24th Cavalry remained with 6th Armoured Division for 15 years from 1965 till 1980 and 52nd Cavalry for 11 years from 1972 to 1983.
 - 16 ‘1965 Indo-Pak War – As I Saw It’. *The Sabre and Lance. Journal of the Pakistan Armoured Corps*. Golden Jubilee Issue. 1997. p.142.
 - 17 15th Lancers remained in Lahore from 1963 till 1978, and 23rd Cavalry from 1965 to 1981.
 - 18 The principal followed in the Indian Armoured Corps was that every regiment issued with new equipment must see it through to the end of its useful life. See: Major General Gurcharan Singh Sandhu, *The Indian Armour. History of the Indian Armoured Corps. 1941-1971*. p.412.
 - 19 Zafar, *Prince, Soldier, Statesman*.
 - 20 Khan, *Memoirs of Lt. Gen*. p.401.
 - 21 Notable examples of this include Louis Nolan of the 15th Hussars who delivered the order for the charge of the Light Brigade in the Crimean War and joined in the charge, and Winston Churchill of the 4th Hussars joining the 21st Lancers for their charge during the Battle of Omdurman.
 - 22 Sandhu, *The Indian Armour*. p.444.
 - 23 Bryan Perrett. *Tank Tracks to Rangoon*. p.159.
 - 24 Citation for Military Cross of IEC 2912. W/S Lieutenant Hazur Ahmed Khan. Skinner’s Horse.
 - 25 Perrett, *Tank Tracks to Rangoon*. p.160.
 - 26 *M47 Patton*. Global Security.
 - 27 Not all the M47s held on the inventory of the Pakistan Army were upgraded. The program was terminated due to the fall of the Shah and the Iran-Iraq War. In fact, the last consignment never returned to Pakistan as

- the tanks were employed by the Iranian Army against the Iraqi forces.
- 28 *United Defense LP, M88, M88A1, M88A1E1 and M88 IRV Armoured Recovery Vehicles*. Pak Def.
 - 29 *M47M Armoured Vehicle-Launched Bridge (AVLB) (Pakistan), Mechanized bridges*. Janes Military Vehicles and Logistics. 2009-2010.
 - 30 The US Military Assistance Program for Pakistan in the 1950s had been entirely within the control of the US Department of Defense.
 - 31 Steven J. Zaloga and Hugh Johnson, *T-54 and T-55 Main Battle Tanks 1944–2004*. During the Hungarian Revolution of 1956, the Hungarians drove a Soviet T-54A tank onto the grounds of the British embassy in Budapest and its gun and armour was examined by technical specialists.
 - 32 Michael Green, *M1 Abrams at War*. p.117.
 - 33 Cloughley, *War, Coups & Terror*. p.133.
 - 34 Baxter, (ed.), *Dairies of Field Marshal Mohammad Ayub Khan 1966-1972*. p.119.
 - 35 The German General Staff were by now well into fielding the Leopard MBT. The VCGS Major General Sahabzada Yaqub visited the factory of Krauss-Maffei where the Leopard was being manufactured.
 - 36 *Ibid*. p.176.
 - 37 Narrated to the author by Syed Ghiasuddin Ahmed who was Secretary Defence during the tenure of President Yahya.
 - 38 HVF Avadi was established in 1965 by the Ordnance Factories Board of the Government of India to manufacture heavy battlefield equipment. It initially manufactured and overhauled the Vijayantas and T-72s, and subsequently the Arjun and the T-90s.
 - 39 The Gun Barrel Manufacturing Factory was commissioned during the 1990s and was subsequently upgraded for manufacturing the 125mm gun.
 - 40 The Arjun project experienced serious budget overruns and repeated delays. Apart from inflationary pressures, other complicating factors in the intervening years were advances in technology and the perceived threat that led to multiple revisions of the requirements by the army. US\$2.8 million were sanctioned for the initial design and by 1995; US\$54.9 million had been spent on development.
 - 41 From October 1941 onwards, Malir was also a staging post for a large number of Italian POWs (captured in North and East Africa) who were transferred to internment camps in India. It was also a camp for many Polish refugees who had escaped to UK and then sent to India.
 - 42 *History of the U.S. Corps of Engineers – War against Japan*.
 - 43 *Ibid*.
 - 44 Since 38th Cavalry was raised in Hyderabad, it adopted the title of Desert Hawks.
 - 45 *History of 19th King George V's Own Lancers. 1921-1947*.
 - 46 Interview with Major General Rehmat. Pakistan Armoured Corps.
 - 47 *Ibid*.
 - 48 The British Indian prison on the Andaman and Nicobar Islands was known as *Kala Pani*. A 'black water' was a place where all honour was lost.
 - 49 Husain, *1947 Before During After*. p.136.
 - 50 Amongst the early commanders of the corps at Bahawalpur were two officers from 20th Lancers: General Shamim Alam Khan and Lieutenant General Muhammad Akram Khan.

Chapter 8

- 1 *Groupement des Industries de l'Armée de Terre* (Army Industries Group) was a French government-owned weapon manufacturer that was renamed as Nexter.
- 2 'Tabuk – The Paradise Lost', *The Sabre and Lance. Journal of the Pakistan Armoured Corps*. Golden Jubilee Issue. 1997. p.123.
- 3 Cloughley, *War, Coups & Terror*. p.63.
- 4 'Armour in Ar'Ar', *The Sabre and Lance. Journal of the Pakistan Armoured Corps*. Golden Jubilee Issue. 1997. p.194.
- 5 'Armour in Ar' Ar', p.195.
- 6 *The Digest of Service of Formations and Regiments* provided by the Armoured Corps Directorate, General Headquarters, Pakistan Army.
- 7 Cloughley, *War, Coups & Terror*. p.138.
- 8 'Blackhawk Down. A personal account from 19th Lancers operations in

Mogadishu', *The Sabre and Lance. Journal of the Pakistan Armoured Corps*. 2008. p.84.

- 9 'Ambush in Mogadishu'. Interview of General Thomas Montgomery, Deputy UN Force Commander, Somalia. *Frontline Magazine*.
- 10 Blackhawk Down. p.86.
- 11 'Peacekeeping in Somalia', *The Sabre and Lance. Journal of the Pakistan Armoured Corps*. Golden Jubilee Issue. 1997. p.197.
- 12 The demilitarisation included a weapons buy-back programme financed by the Government of Croatia and removal of heavy equipment including tanks, artillery, and APCs.
- 13 'Spearheads in Slavonia', *The Sabre and Lance. Journal of the Pakistan Armoured Corps*. Golden Jubilee Issue. 1997. p.206.

About the Author

Born into a family with 150 years of tradition of soldiering, Syed Ali Hamid retired from the Pakistan Army after more than 50 years of service, more than half of this with the Pakistan Armoured Corps. He served with an armoured regiment during the Indo-Pakistan War of 1971, commanded a mechanized division, lectured for six years at the faculty of the Army Staff College and Pakistan's National Defence University, and developed a passion for military history.

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